

FIG. 42A

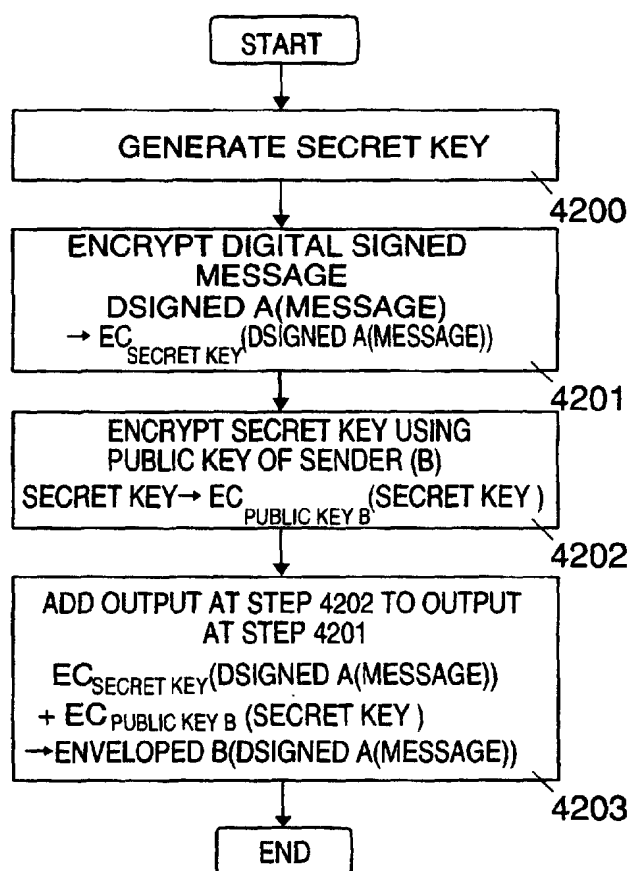


FIG. 42B

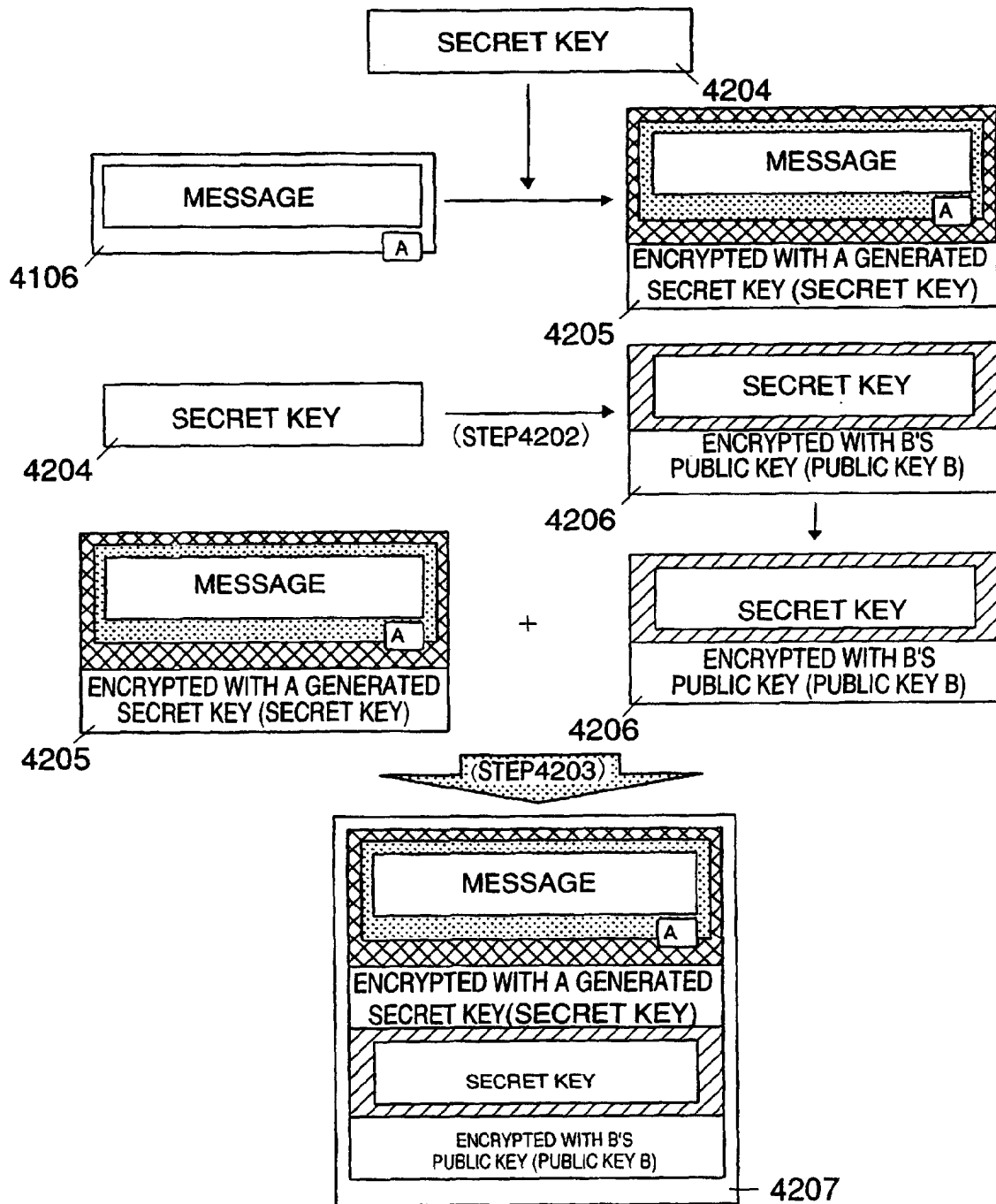


FIG. 43A

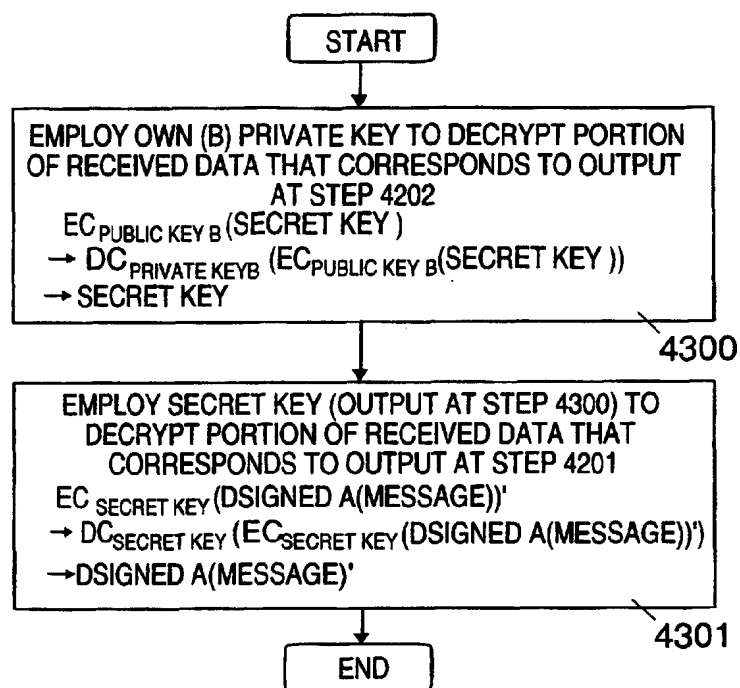


FIG. 43B

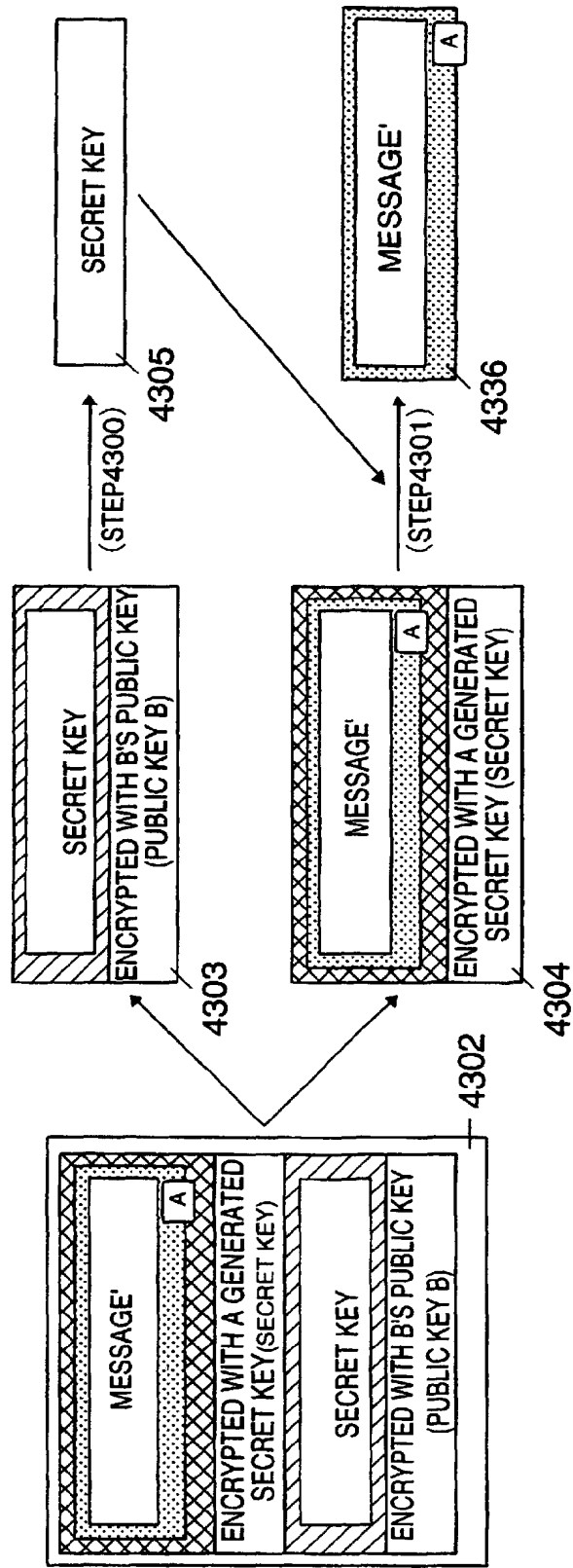


FIG. 44A

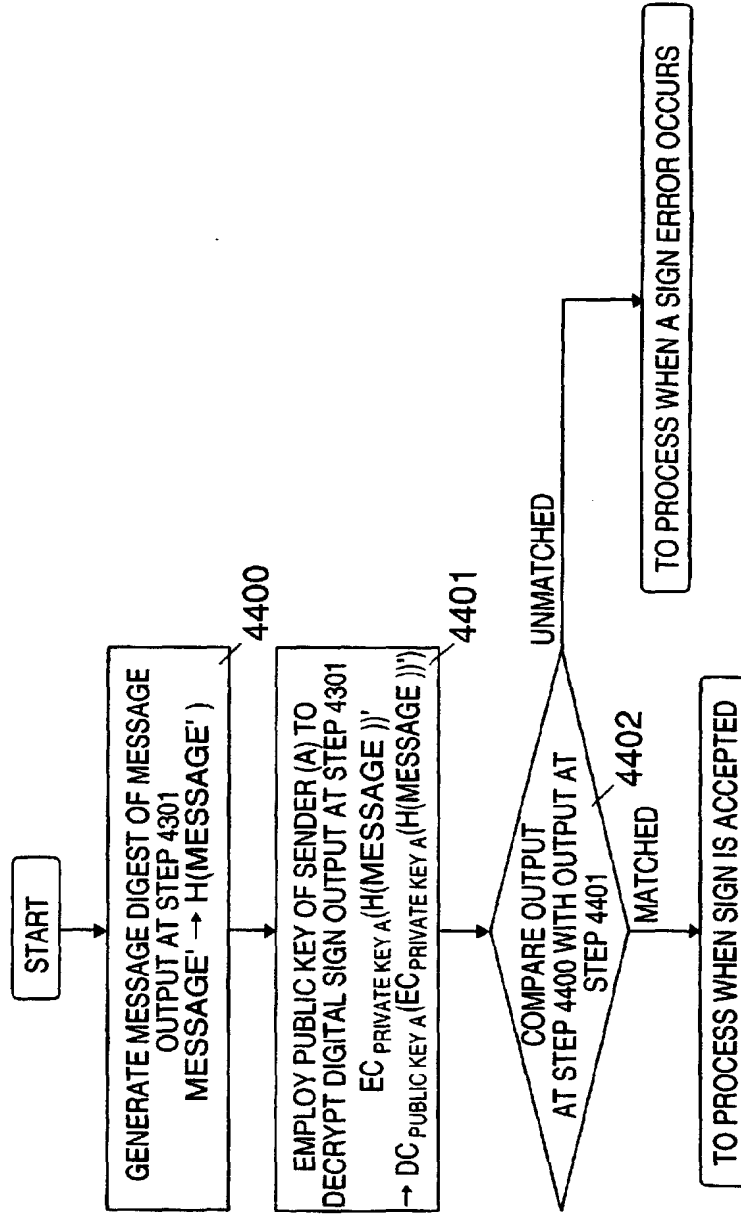


FIG. 44B

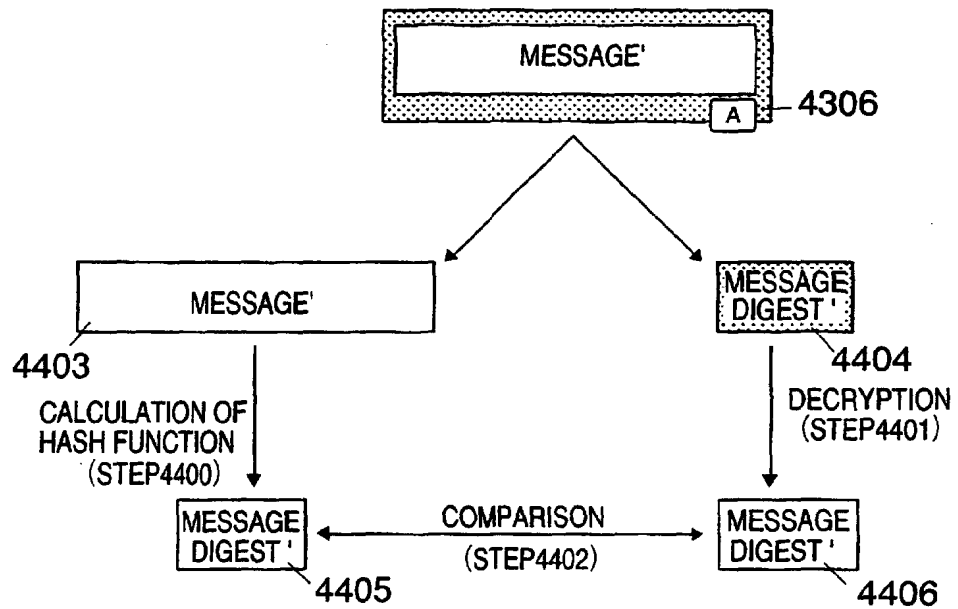


FIG. 45

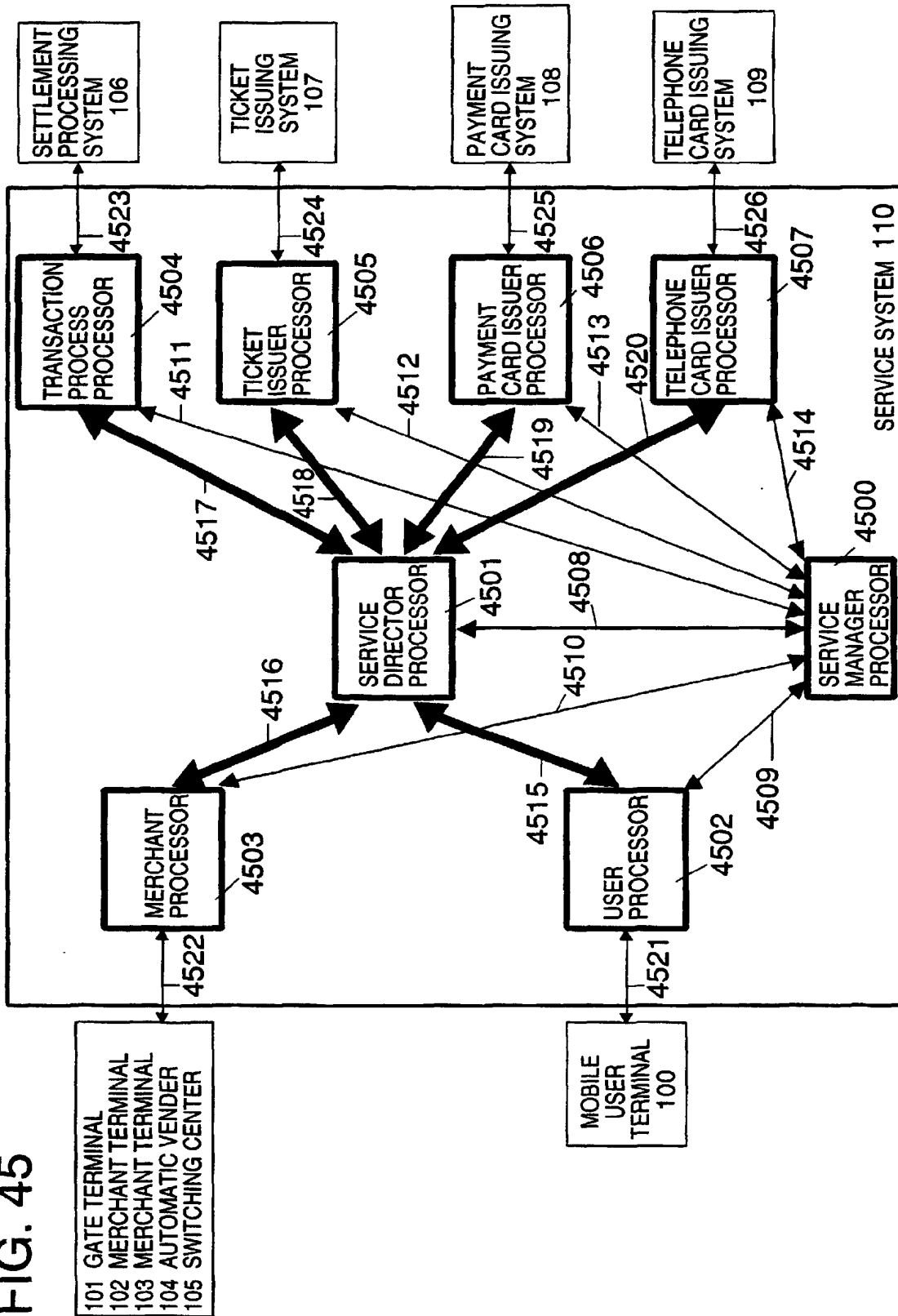


FIG. 46

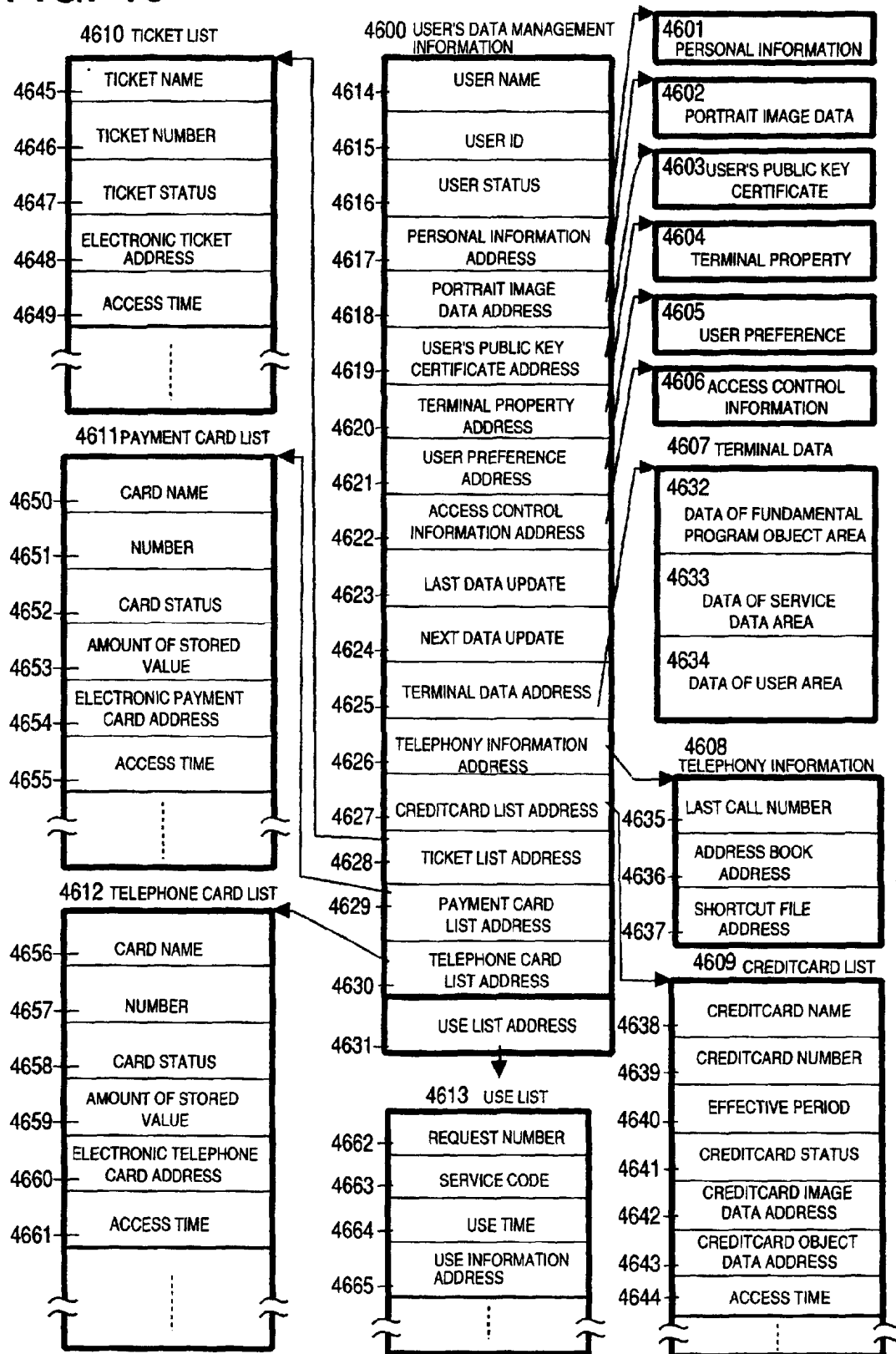


FIG. 47

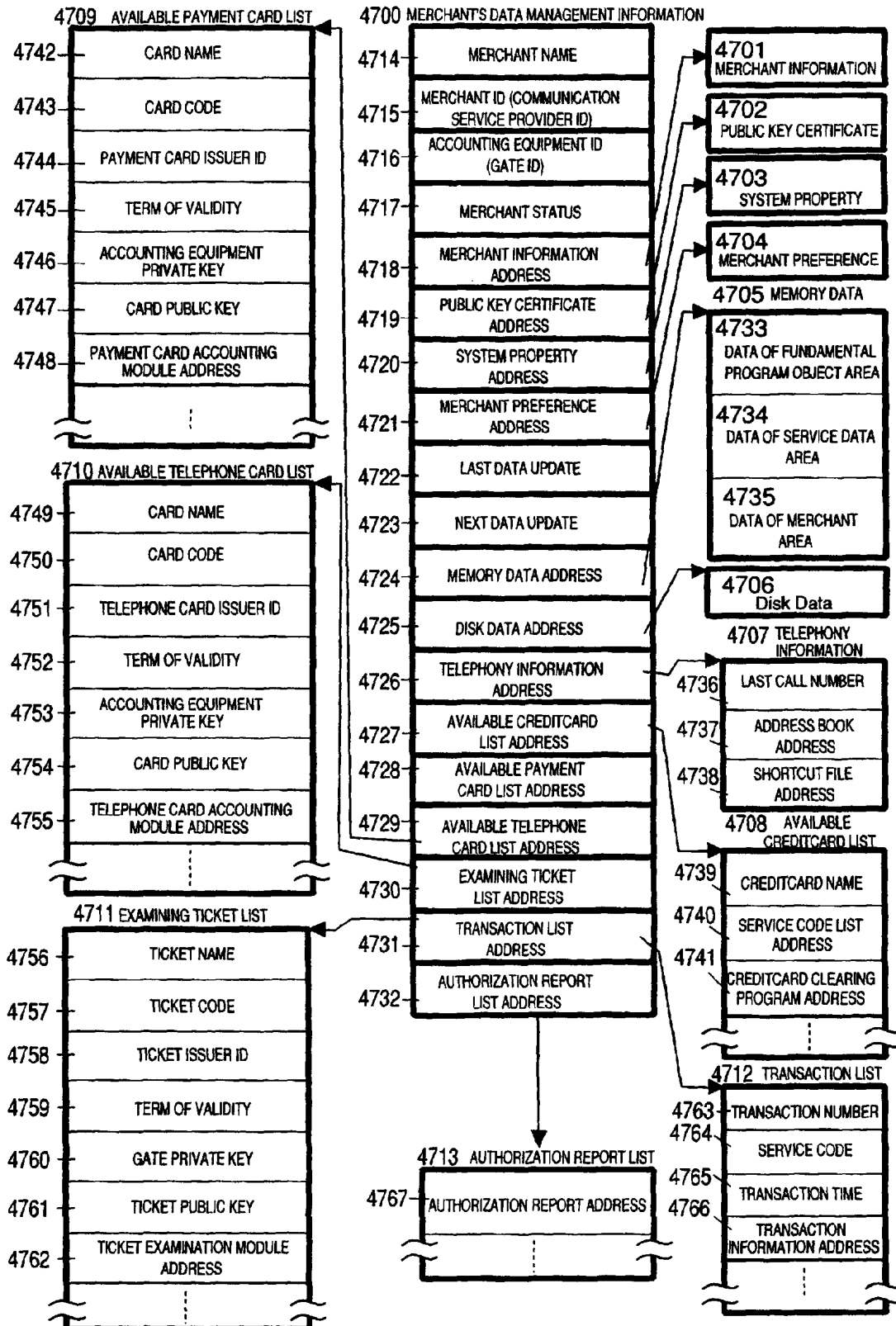


FIG. 48

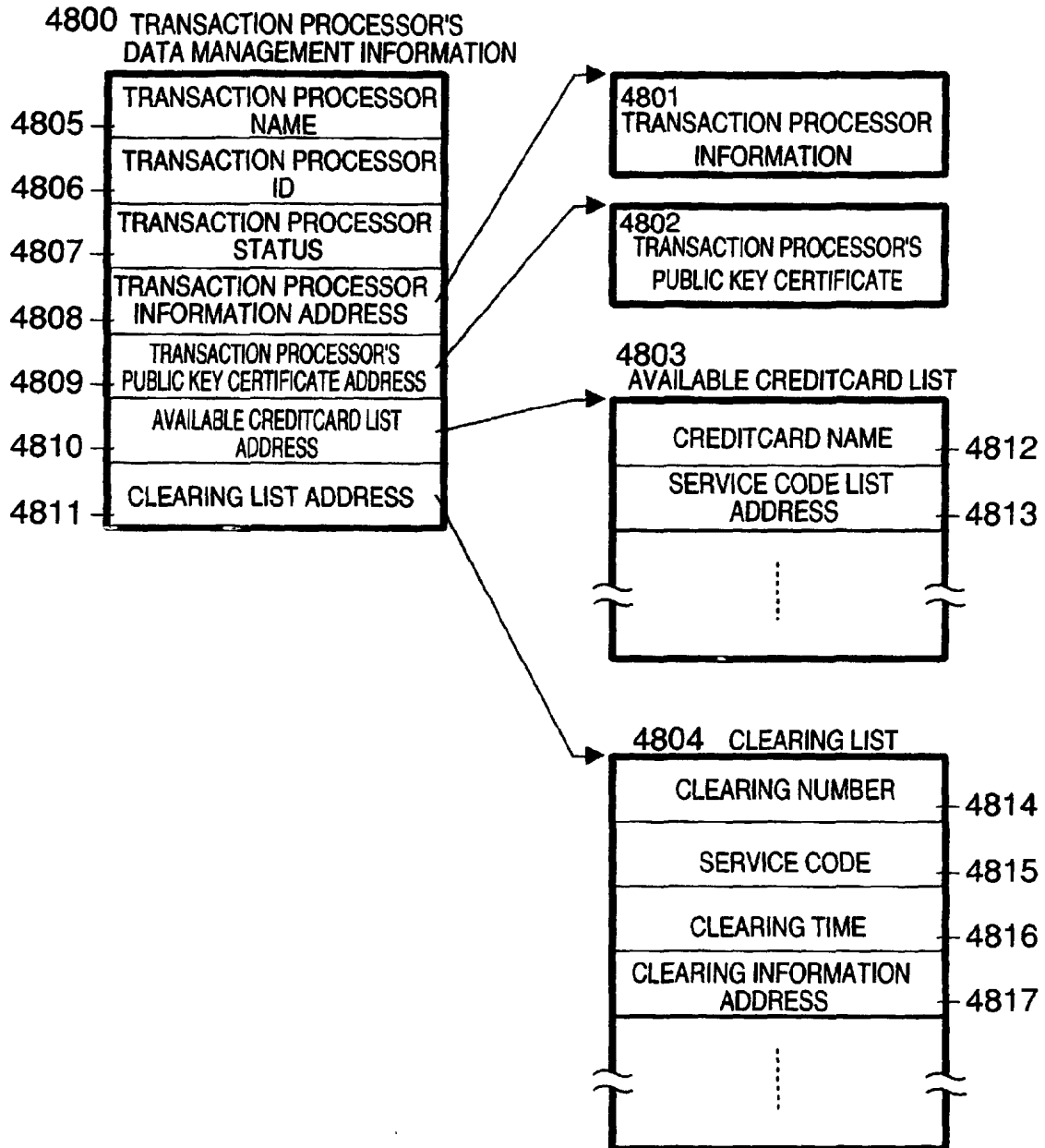


FIG. 49

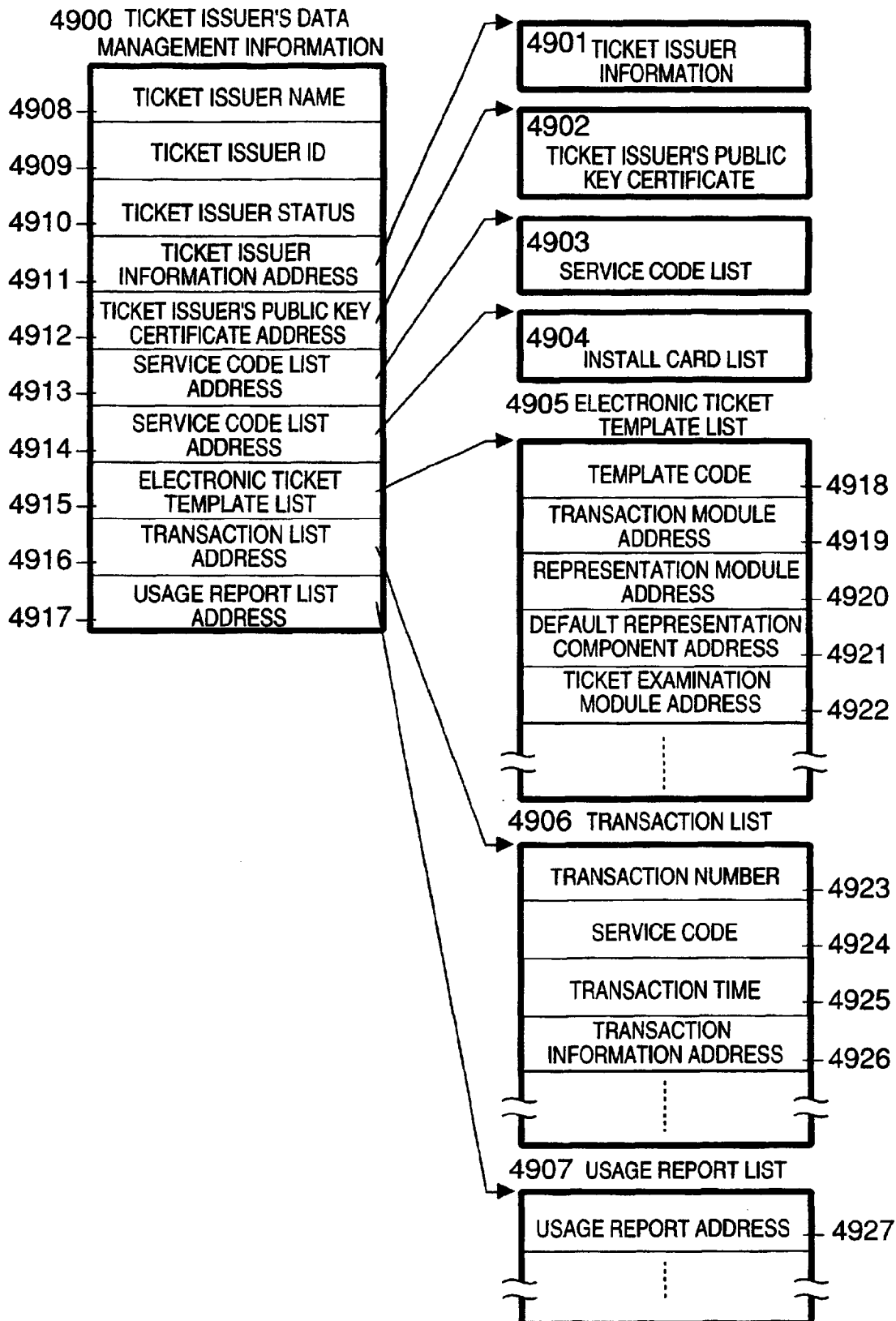


FIG. 50

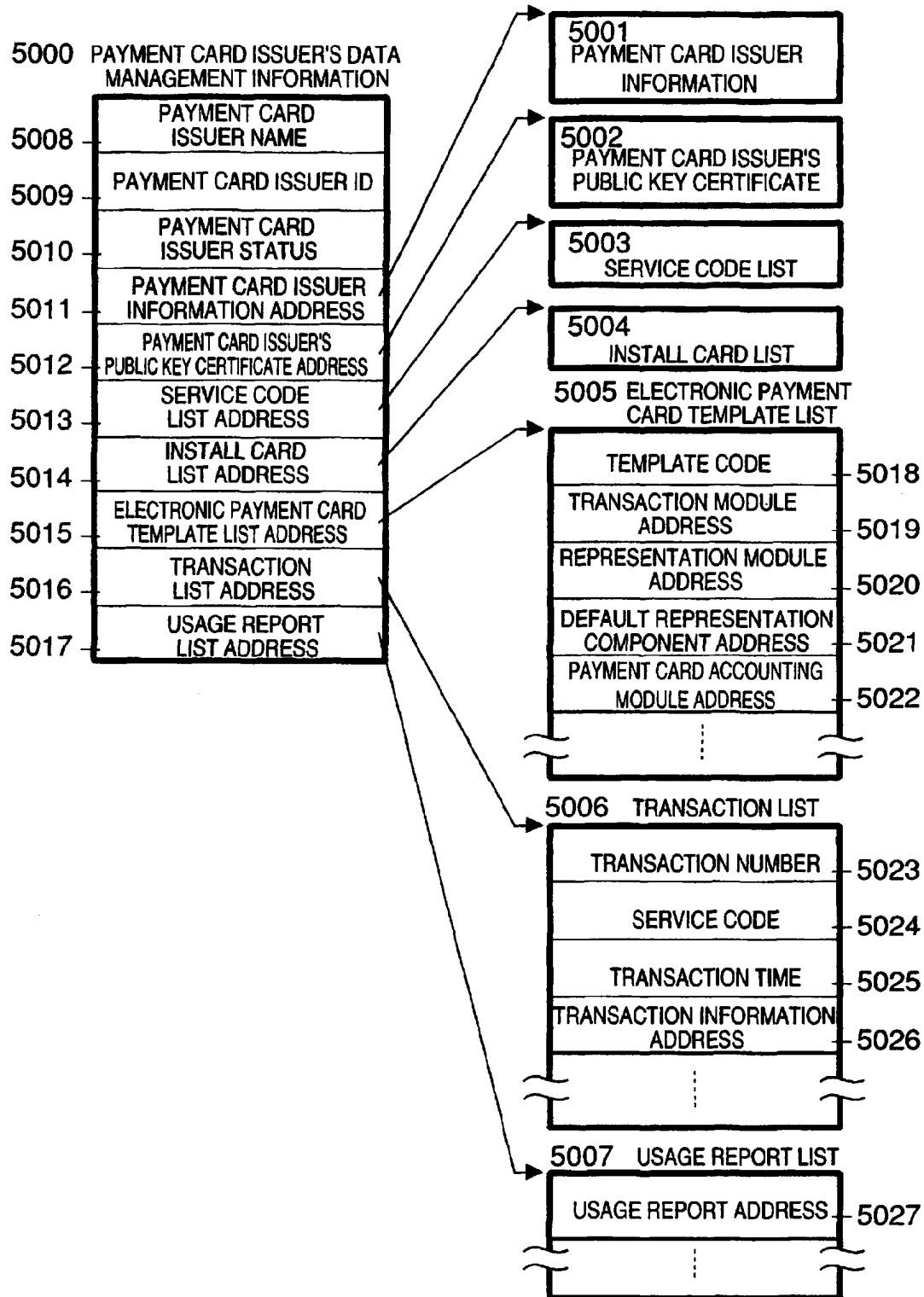


FIG. 51

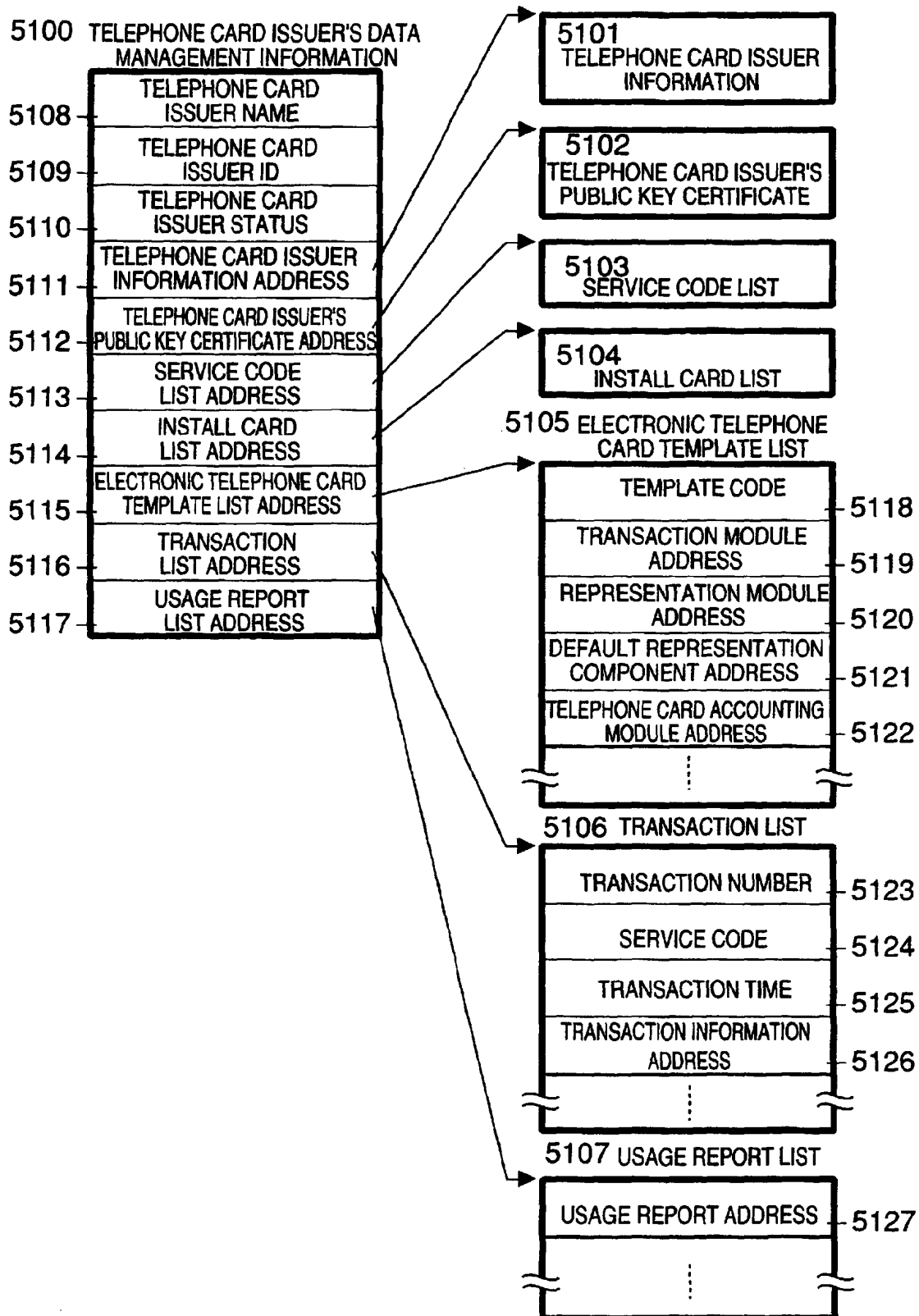


FIG. 52A

5200 USER LIST

5207	USER NAME
5208	USER ID
5209	USER'S TELEPHONE NUMBER
5210	USER PUBLIC KEY CERTIFICATE ADDRESS
5211	AVAILABLE SERVICE LIST ADDRESS
5212	USER INFORMATION ADDRESS
	...

FIG. 52B

5201 MERCHANT LIST

5213	MERCHANT NAME
5214	MERCHANT ID (COMMUNICATION SERVICE PROVIDER ID)
5215	ACCOUNTING EQUIPMENT ID (GATE ID)
5216	MERCHANT'S TELEPHONE NUMBER
5217	AVAILABLE SERVICE LIST ADDRESS
5218	CUSTOMERS TABLE ADDRESS
5219	MERCHANT INFORMATION ADDRESS
	...

FIG. 52C

5202 TRANSACTION
PROCESSORS LIST

5220	TRANSACTION PROCESSOR NAME
5221	TRANSACTION PROCESSOR ID
5222	TRANSACTION PROCESSORS COMMUNICATION ID
5223	AVAILABLE SERVICE LIST ADDRESS
5224	TRANSACTION PROCESSOR INFORMATION ADDRESS
	...

FIG. 52D

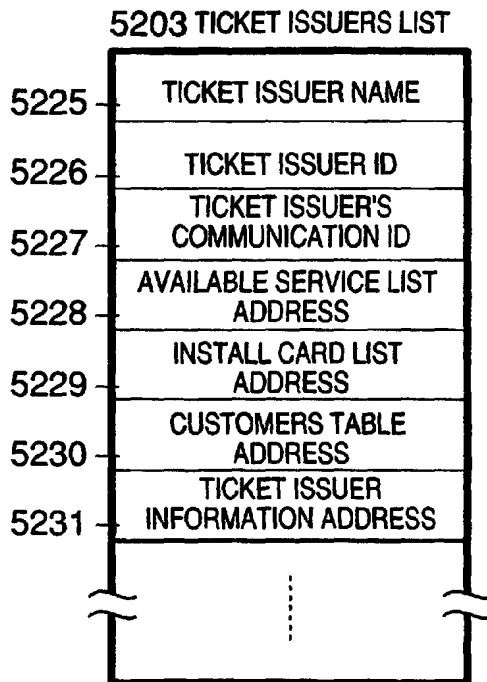


FIG. 52E

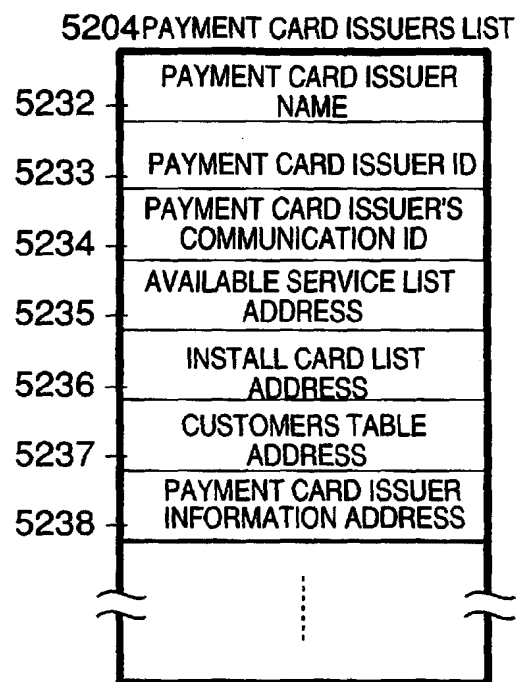


FIG. 52F

5205 TELEPHONE CARD ISSUERS LIST

5239	TELEPHONE CARD ISSUER NAME
5240	TELEPHONE CARD ISSUER ID
5241	TELEPHONE CARD ISSUER'S COMMUNICATION ID
5242	AVAILABLE SERVICE LIST ADDRESS
5243	INSTALL CARD LIST ADDRESS
5244	CUSTOMERS TABLE ADDRESS
5245	TELEPHONE CARD ISSUER INFORMATION ADDRESS
	...

FIG. 52G

5206 PROVIDED SERVICE LIST

5246	SERVICE PROVIDING NUMBER
5247	SERVICE CODE
5248	SERVICE PROVIDING TIME
5249	PROVIDED SERVICE INFORMATION ADDRESS
	...

FIG. 53

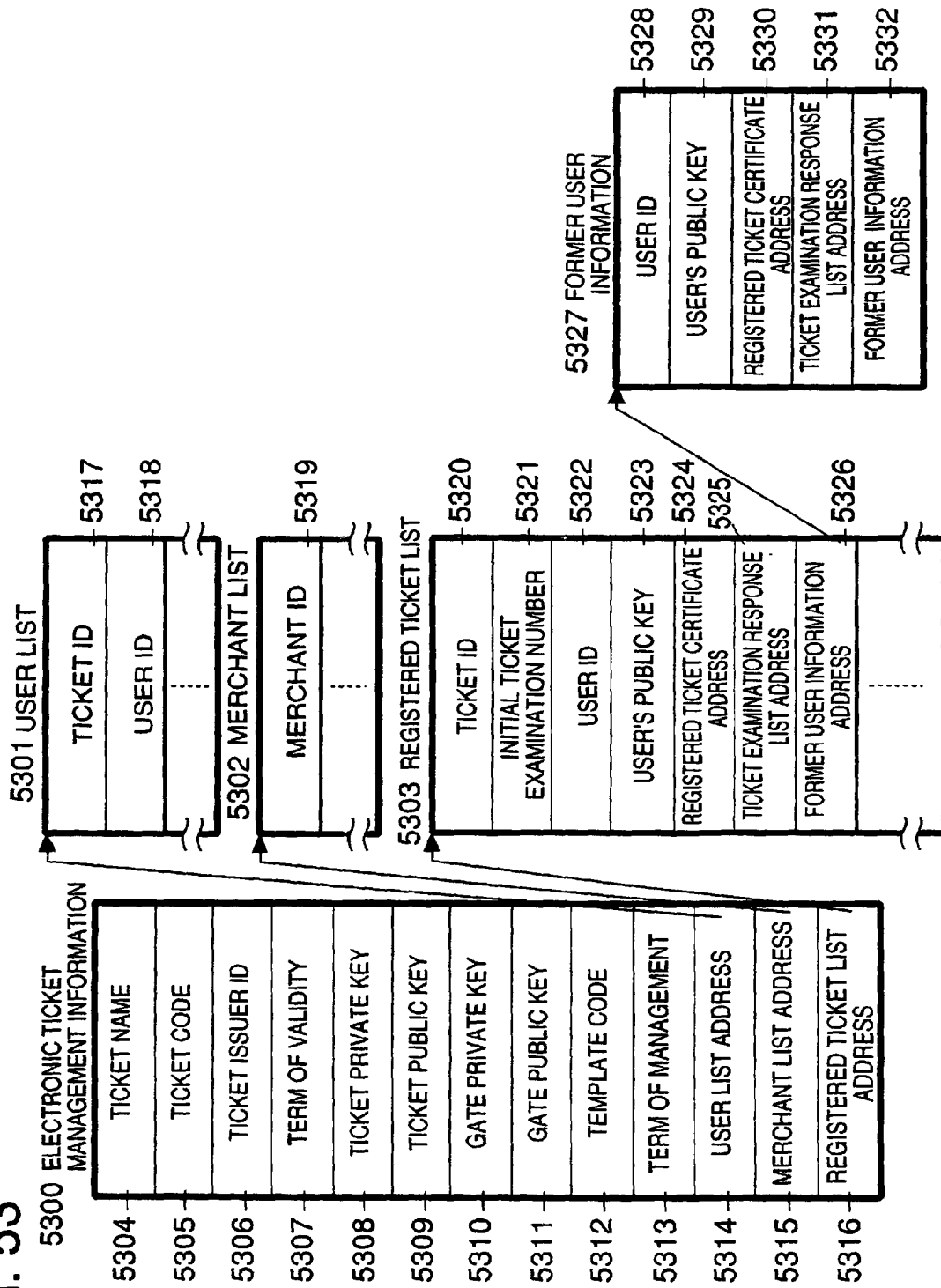


FIG. 54

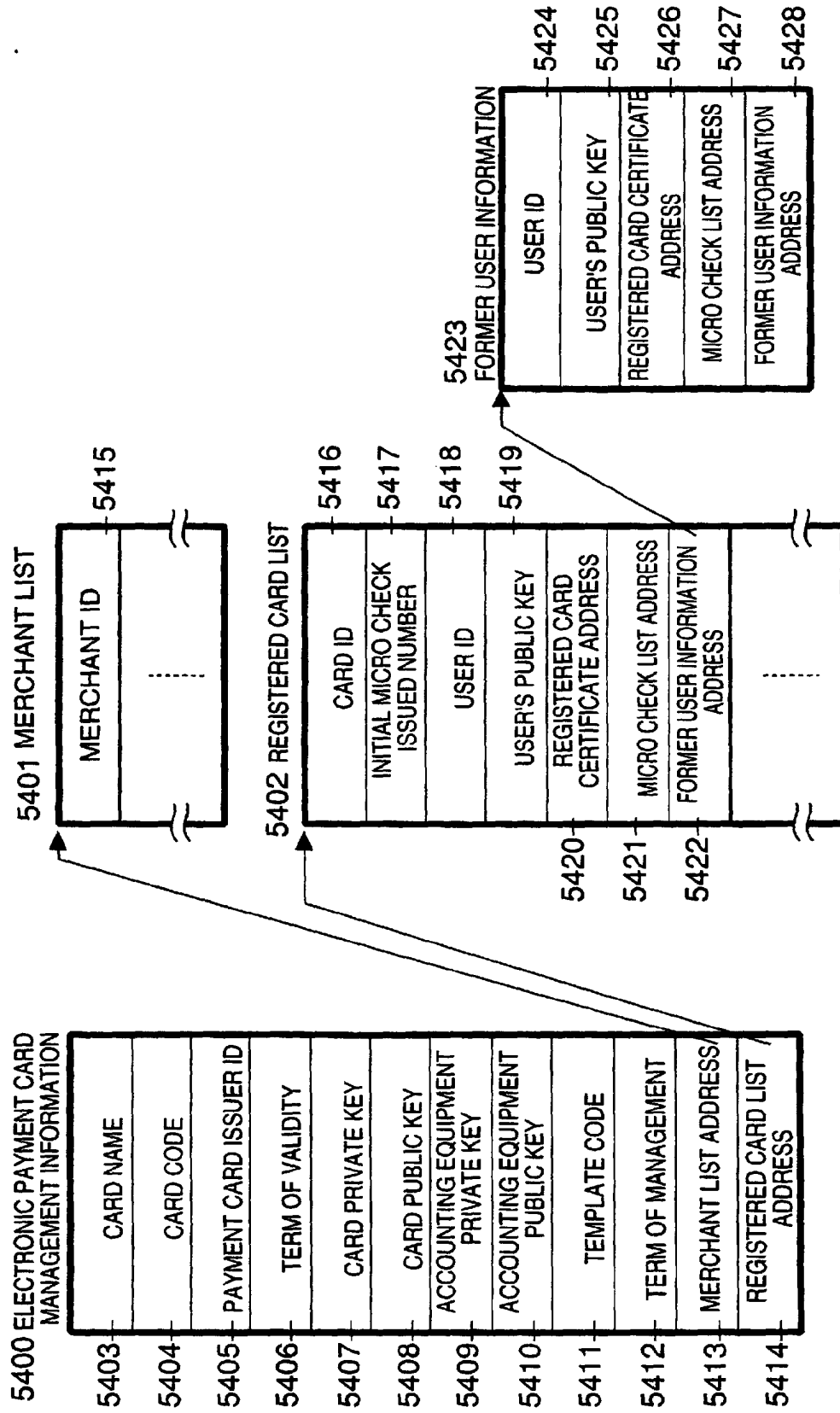


FIG. 55

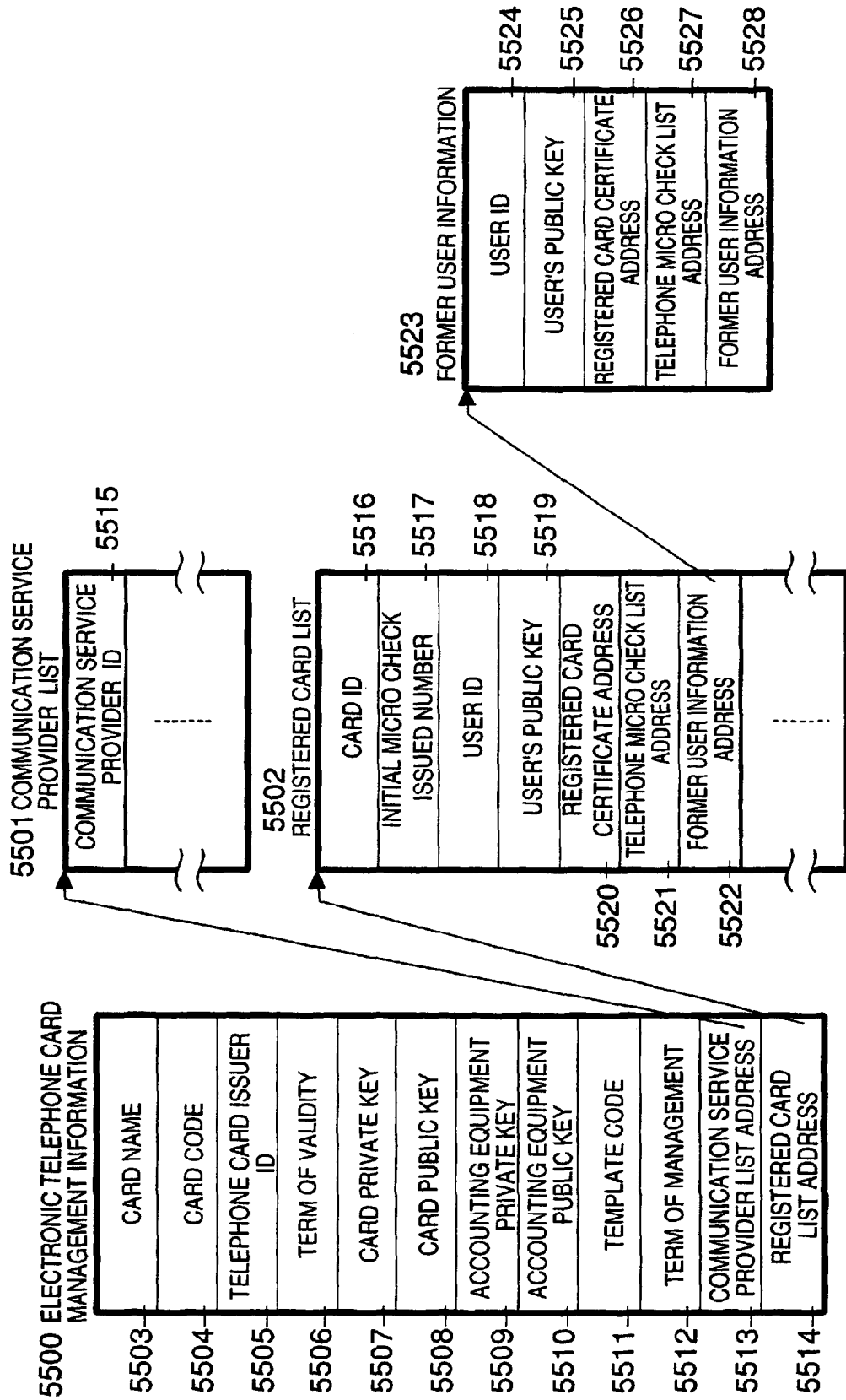


FIG. 56A

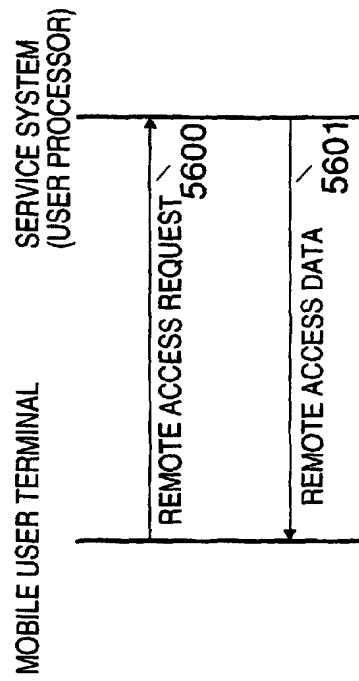


FIG. 56B

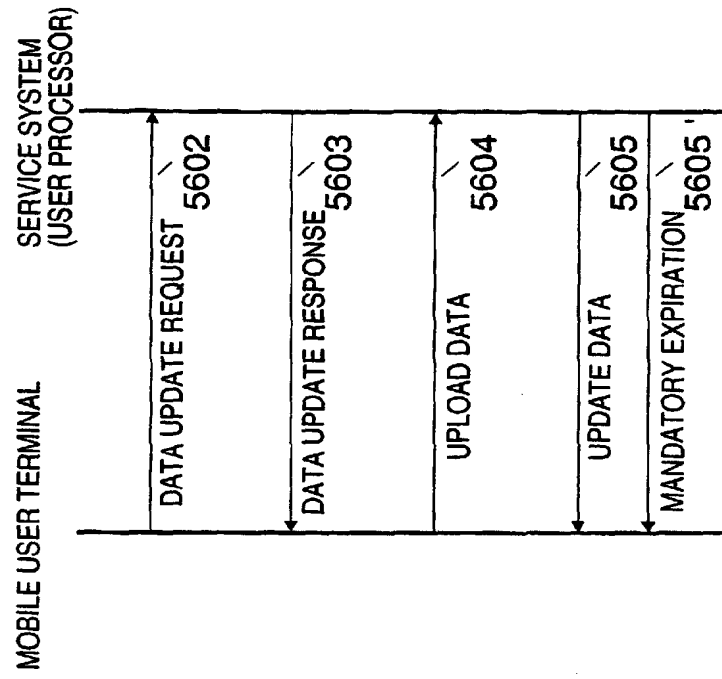


FIG. 56C

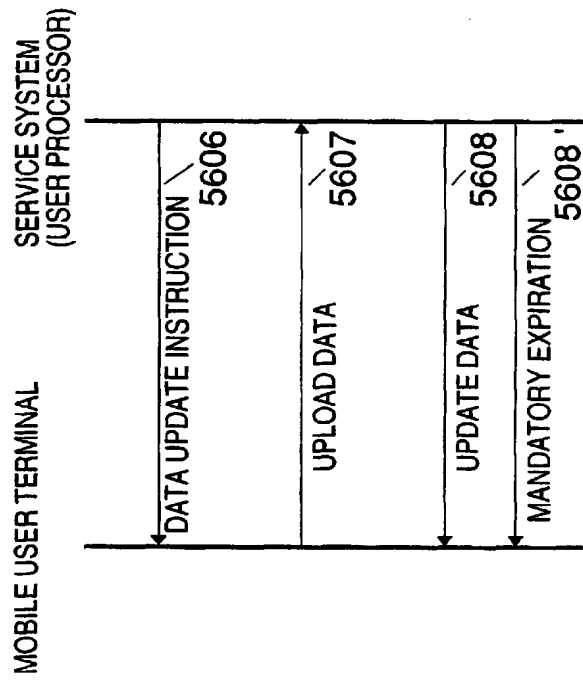


FIG. 56D

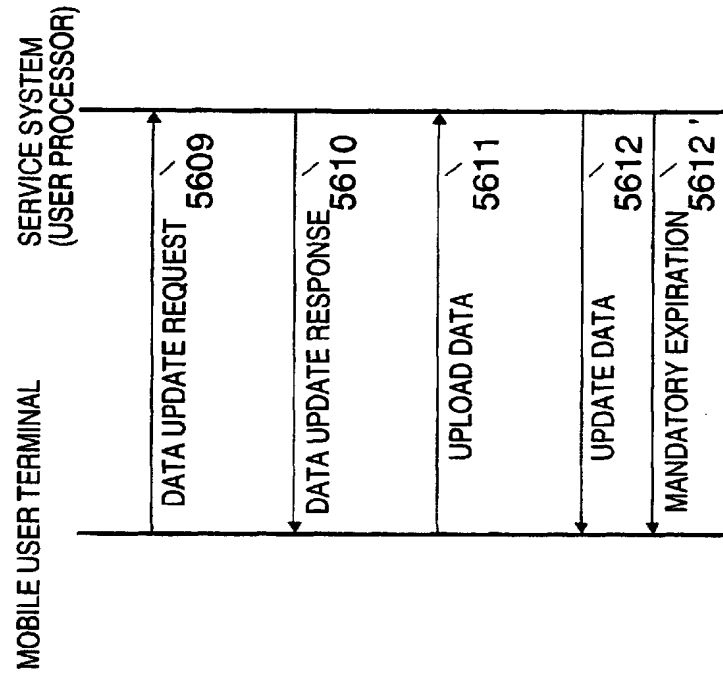


FIG. 57A

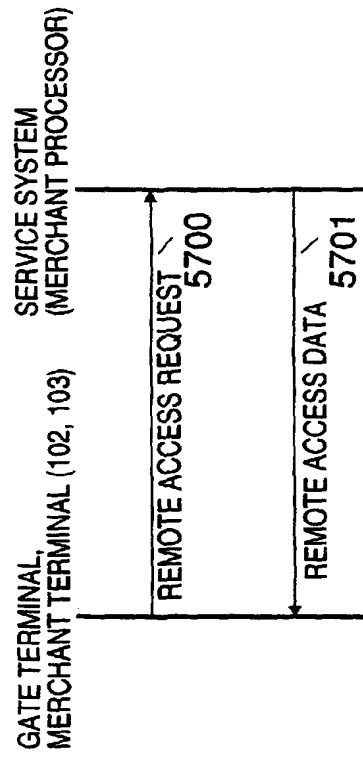


FIG. 57B

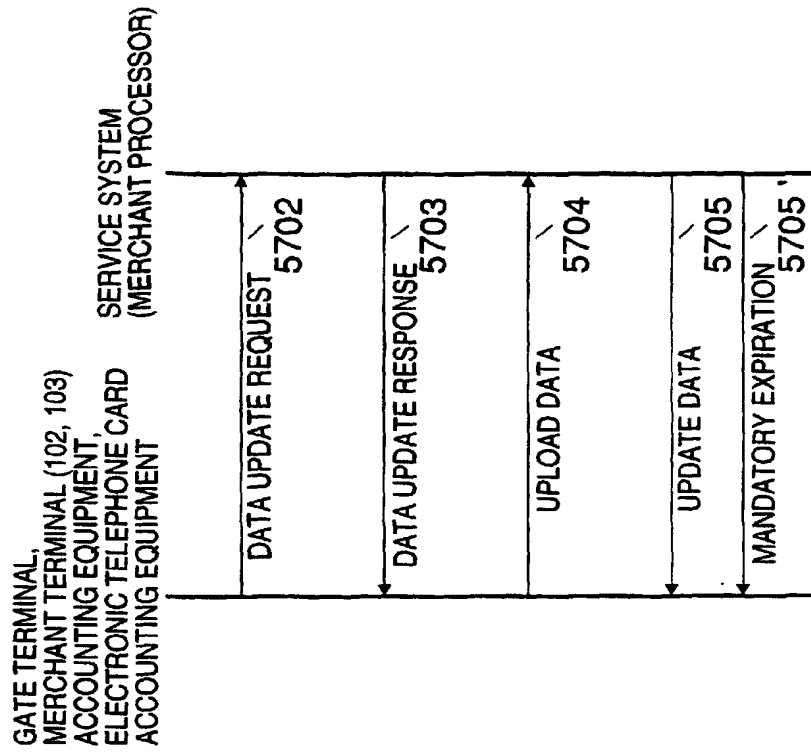


FIG. 57D

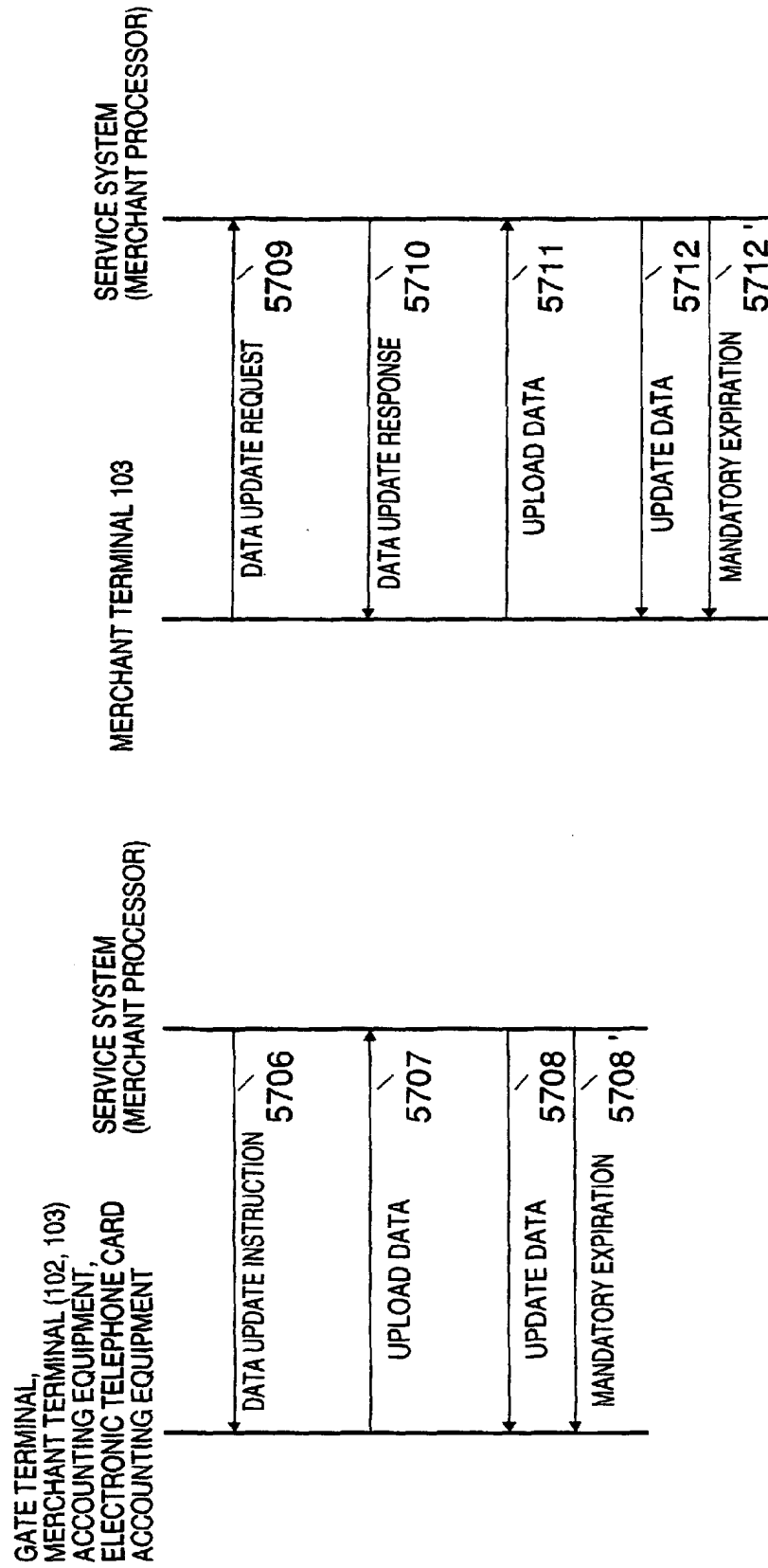


FIG. 57C

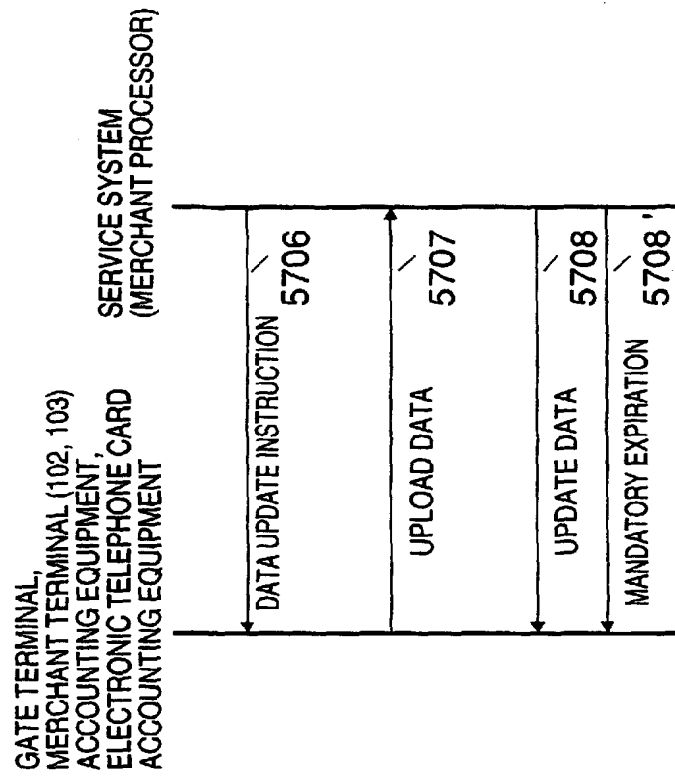


FIG. 58

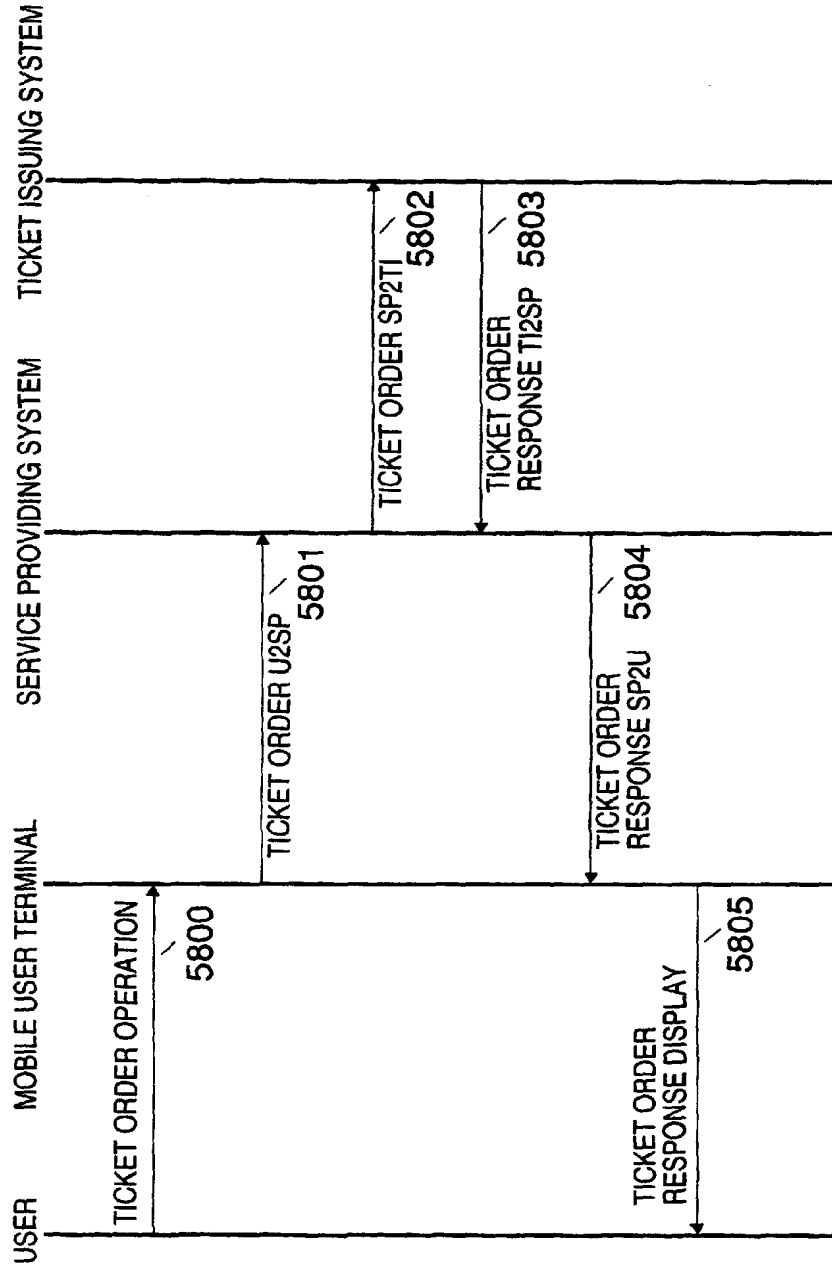


FIG. 59

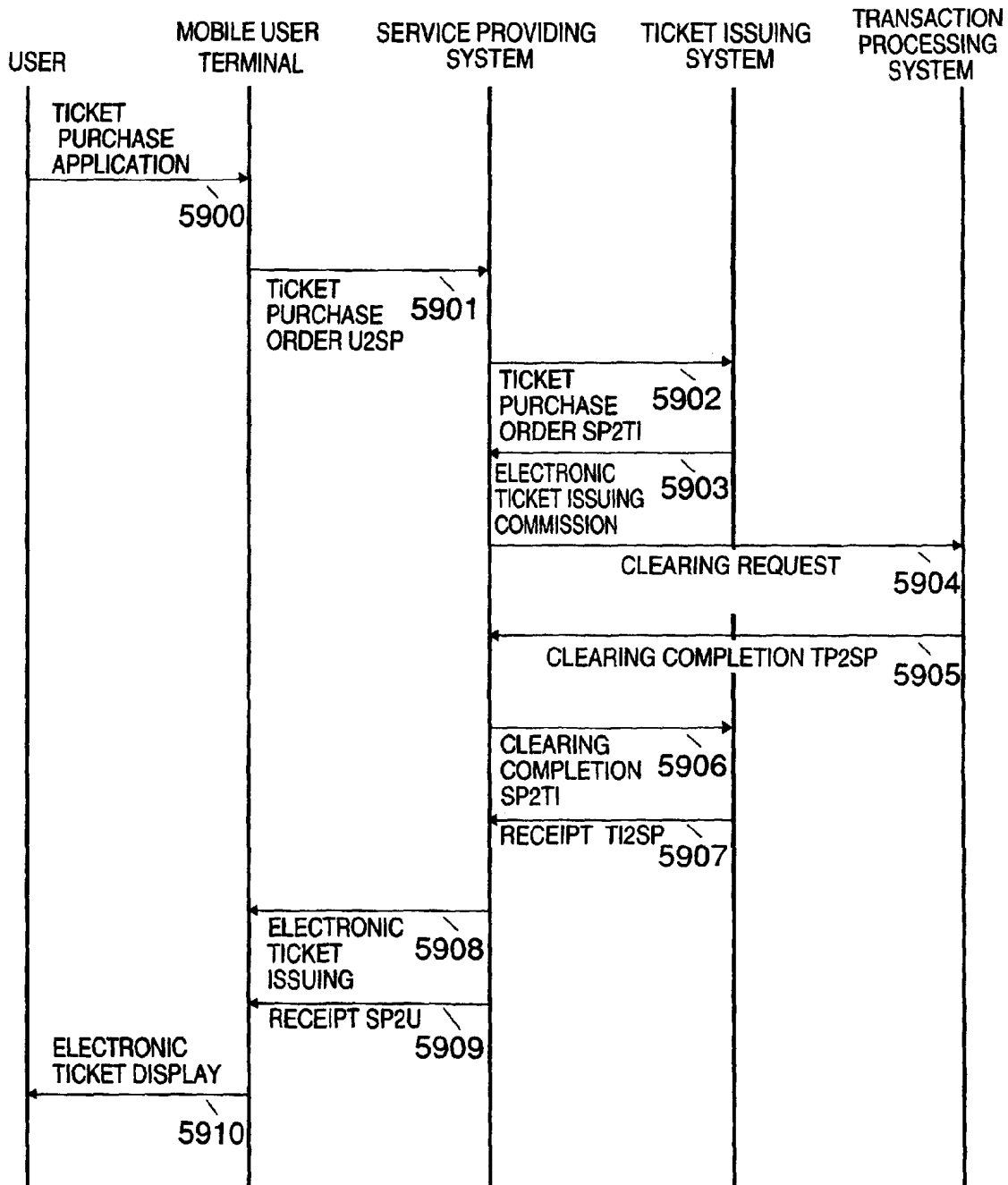


FIG. 60

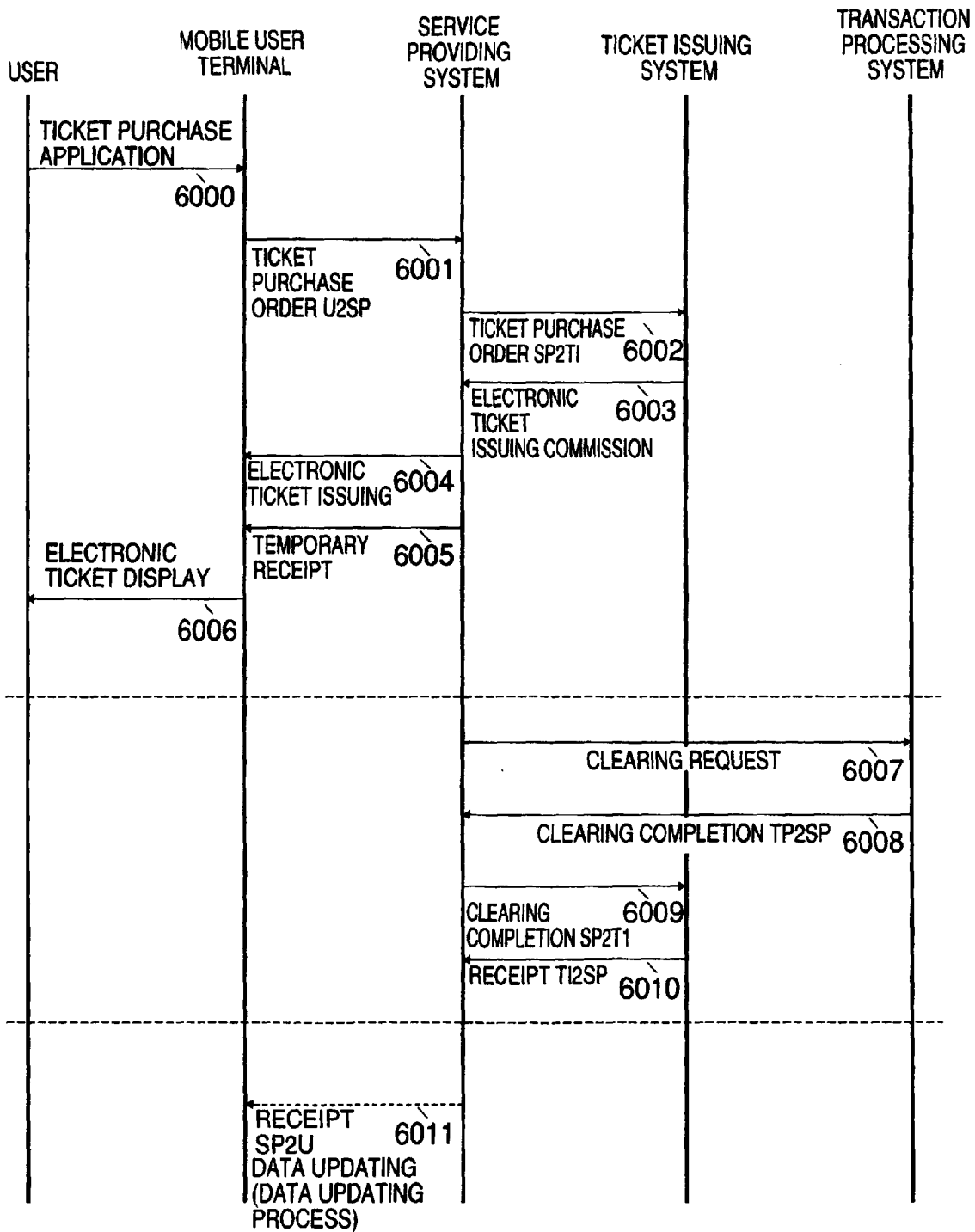


FIG. 61

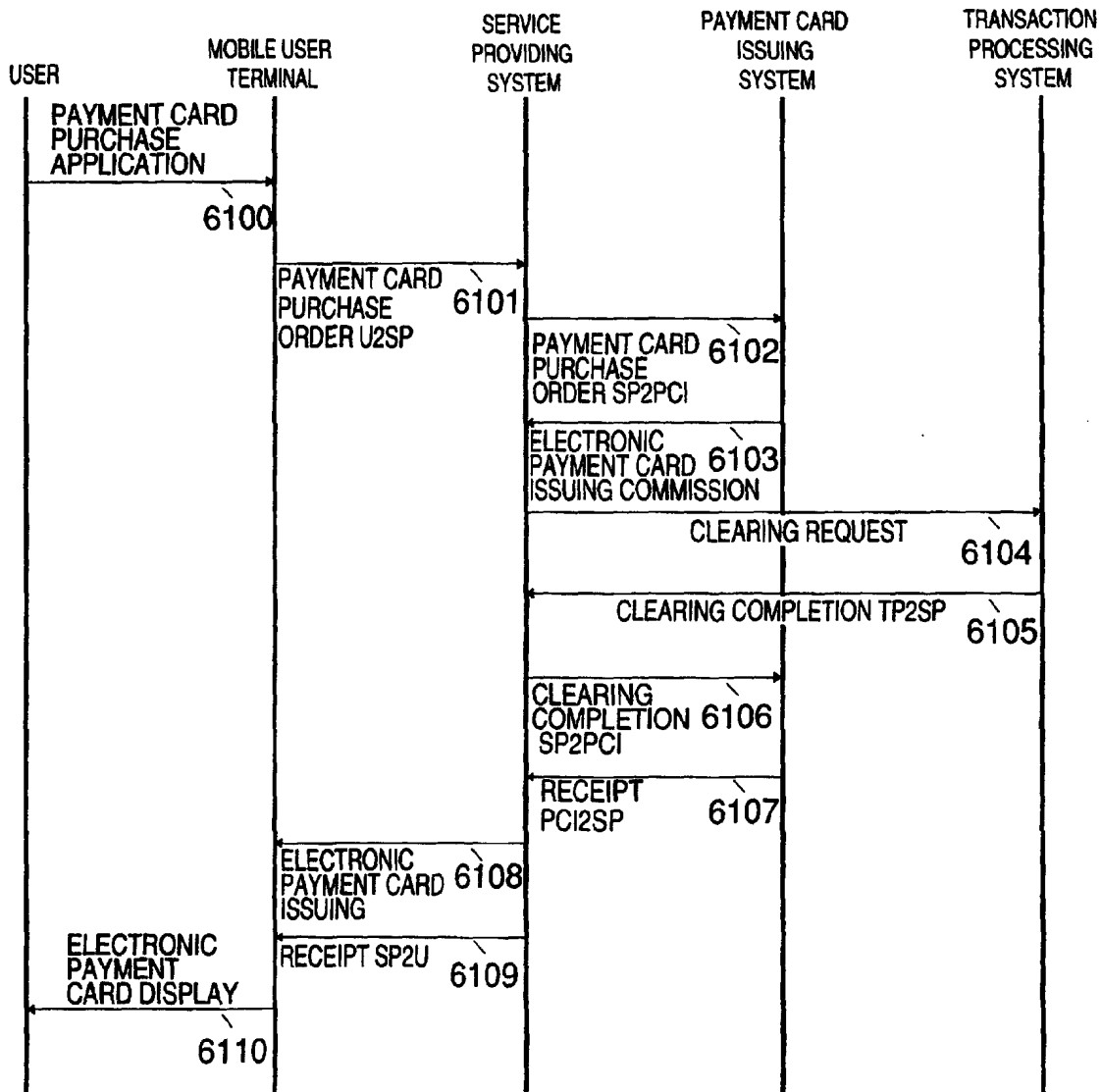


FIG. 62

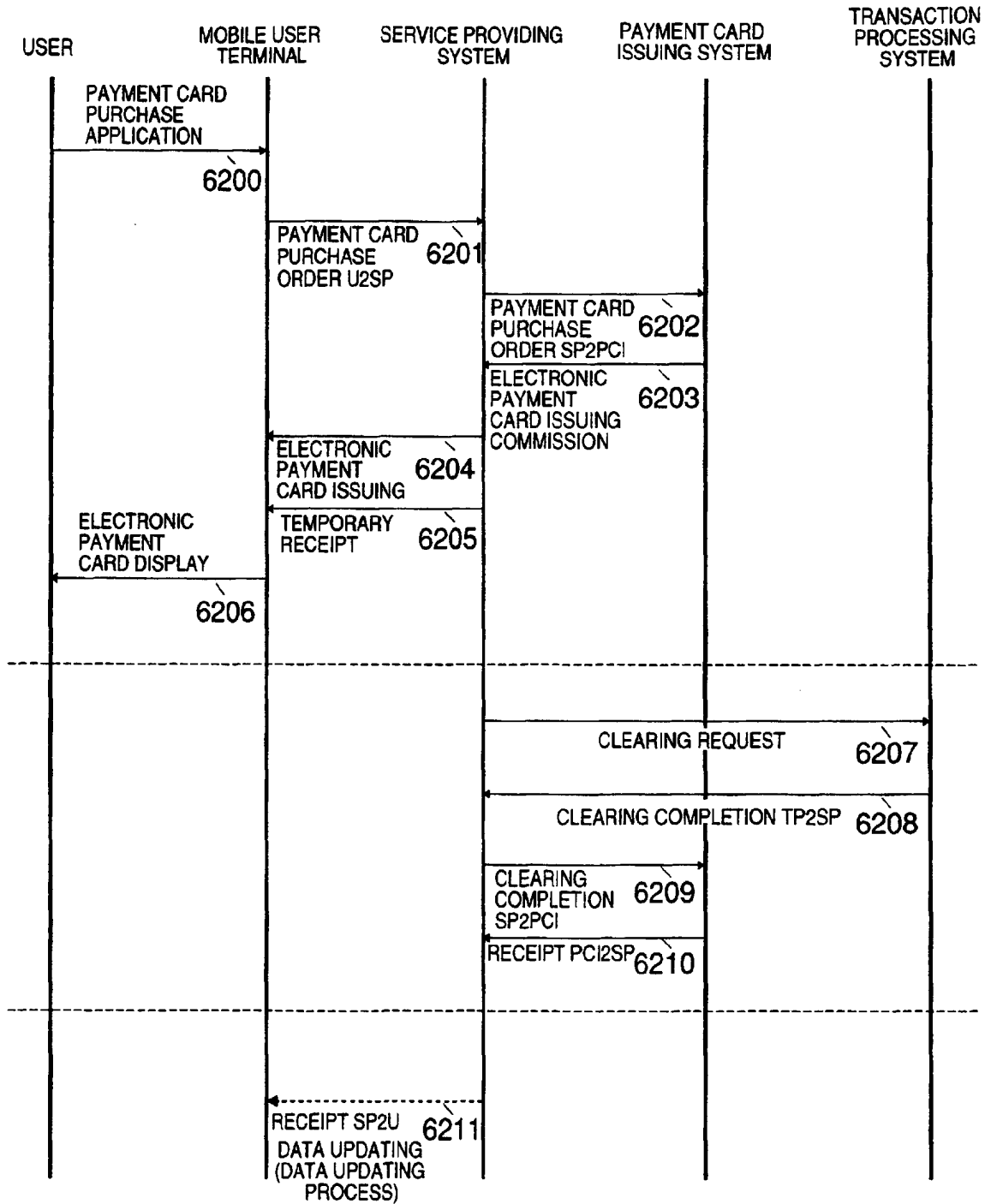


FIG. 63

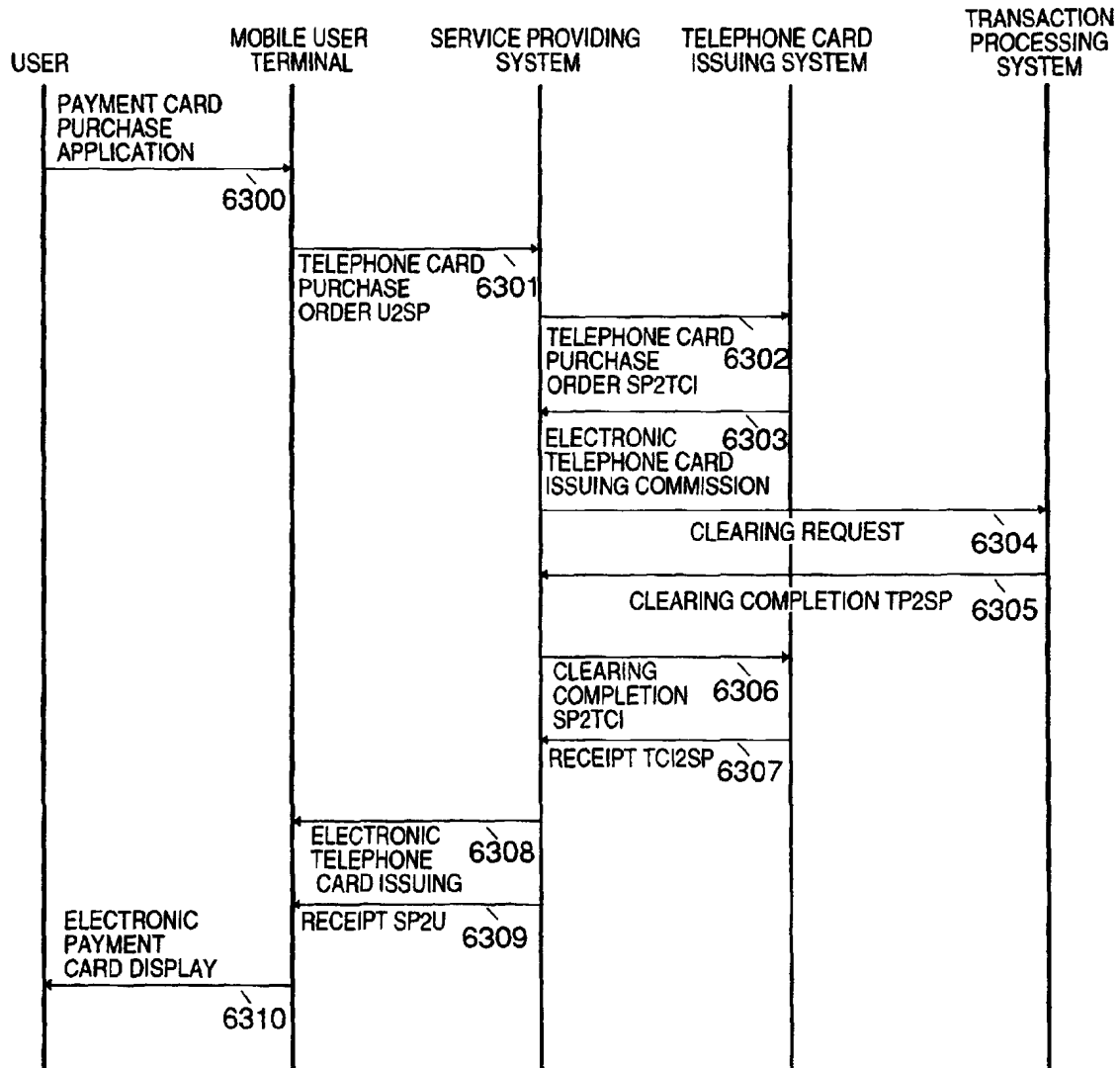


FIG. 64

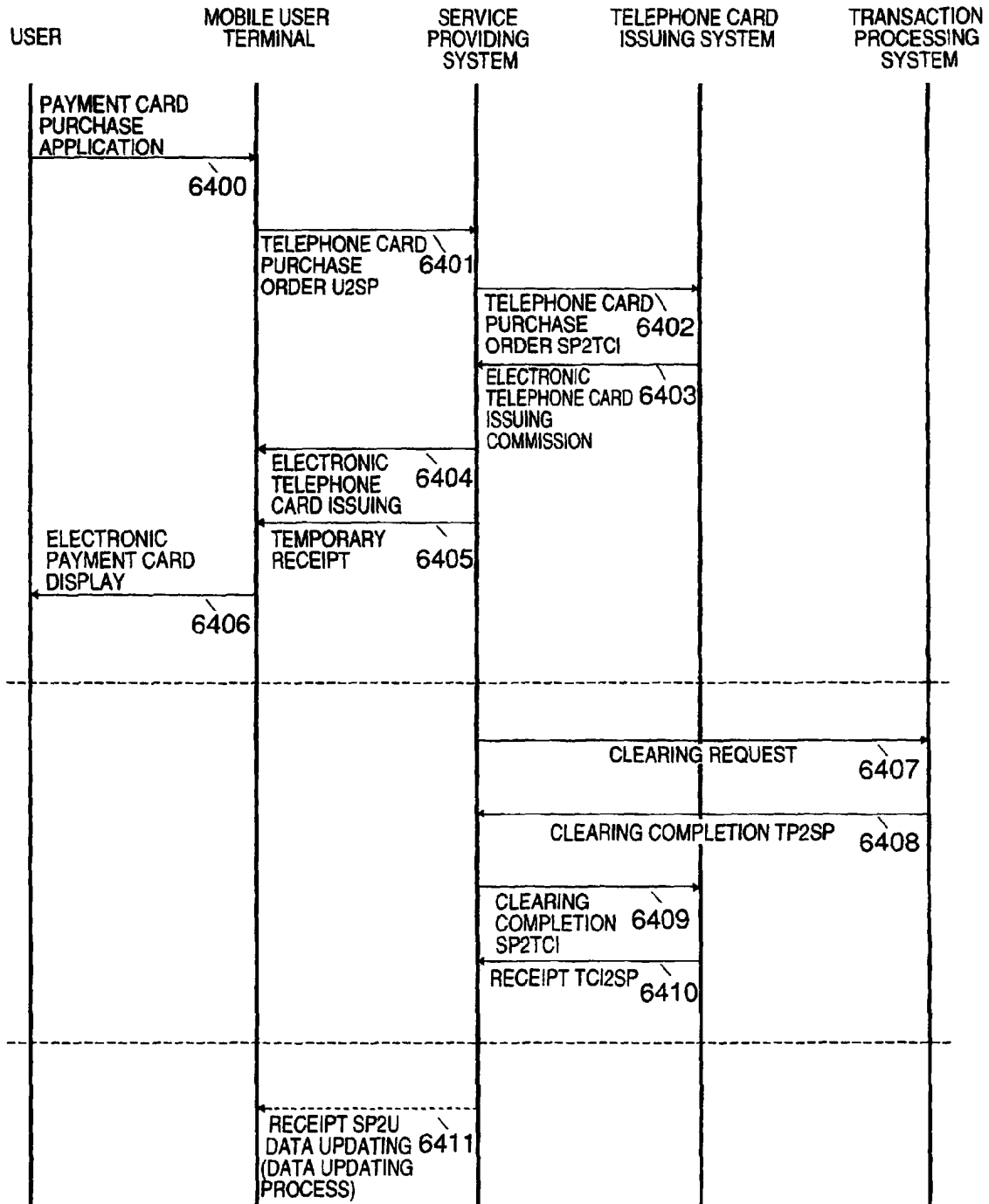


FIG. 65A

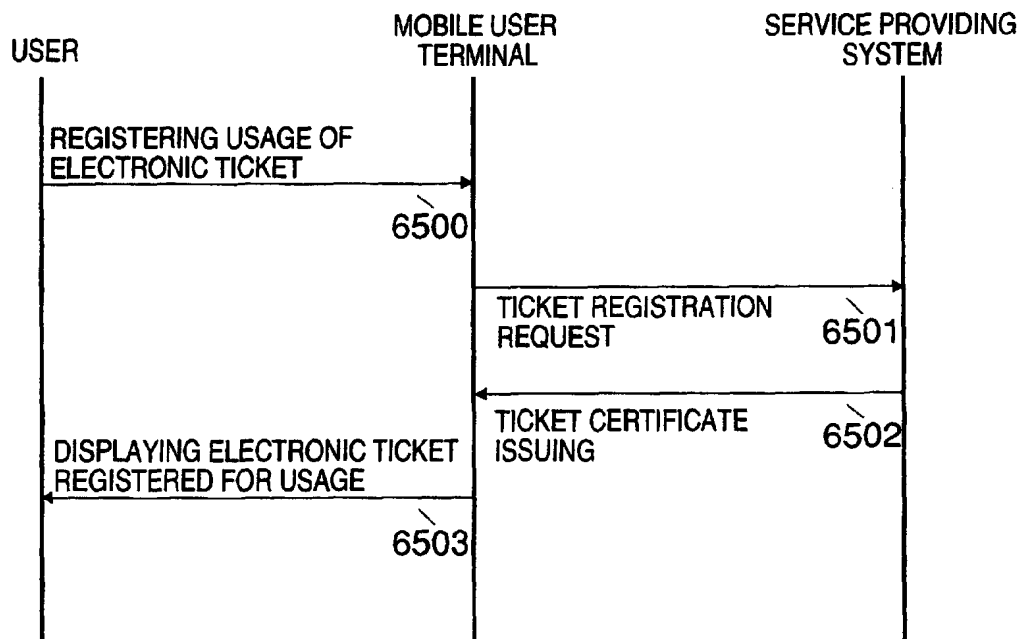


FIG. 65B

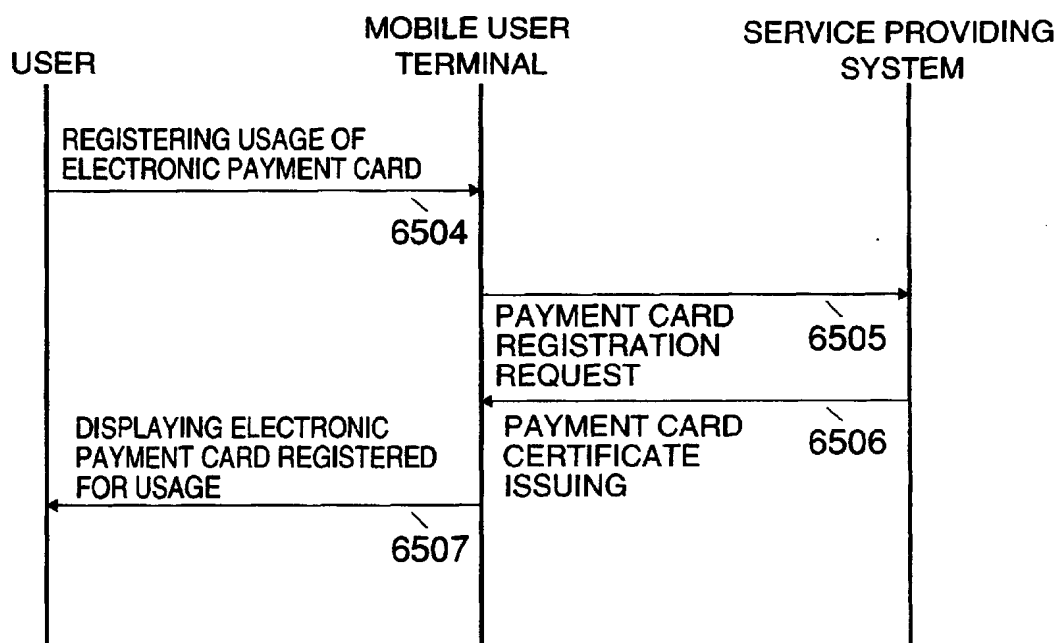


FIG. 65C

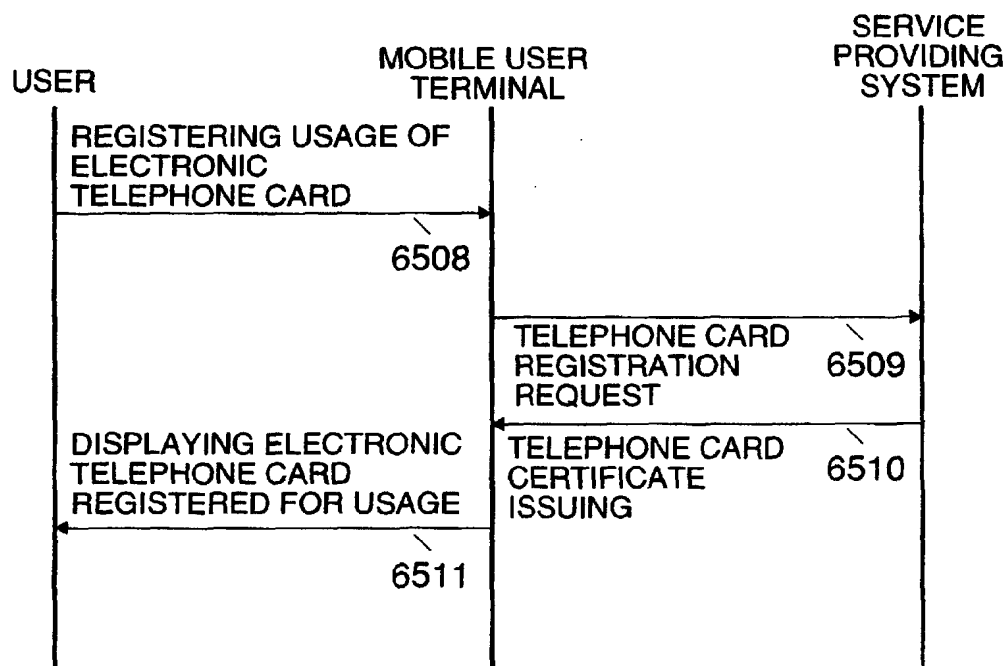


FIG. 66

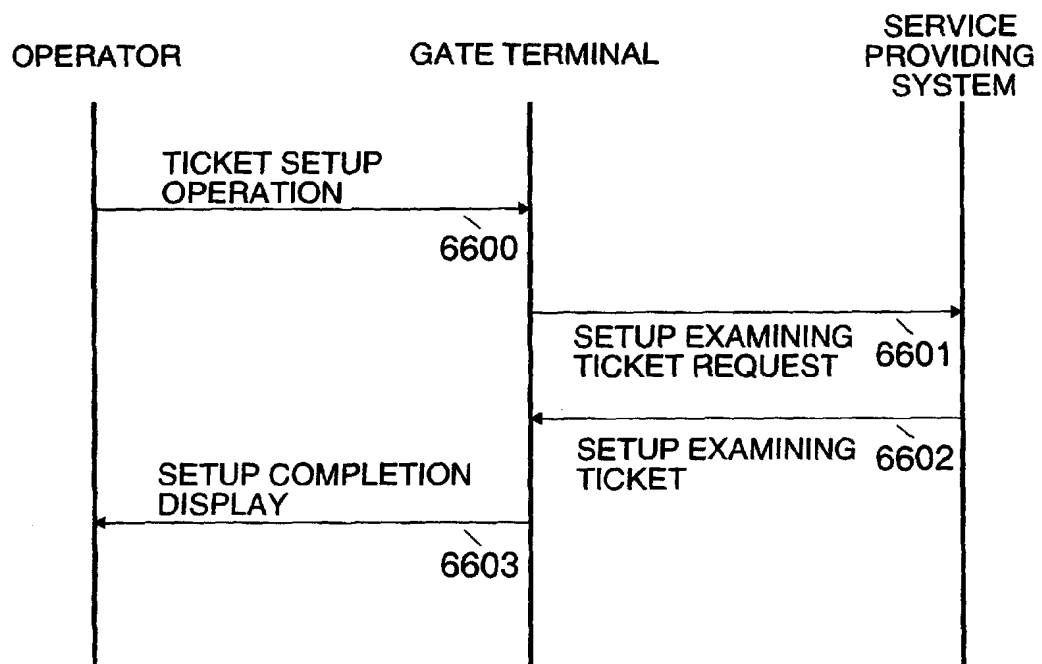


FIG. 67

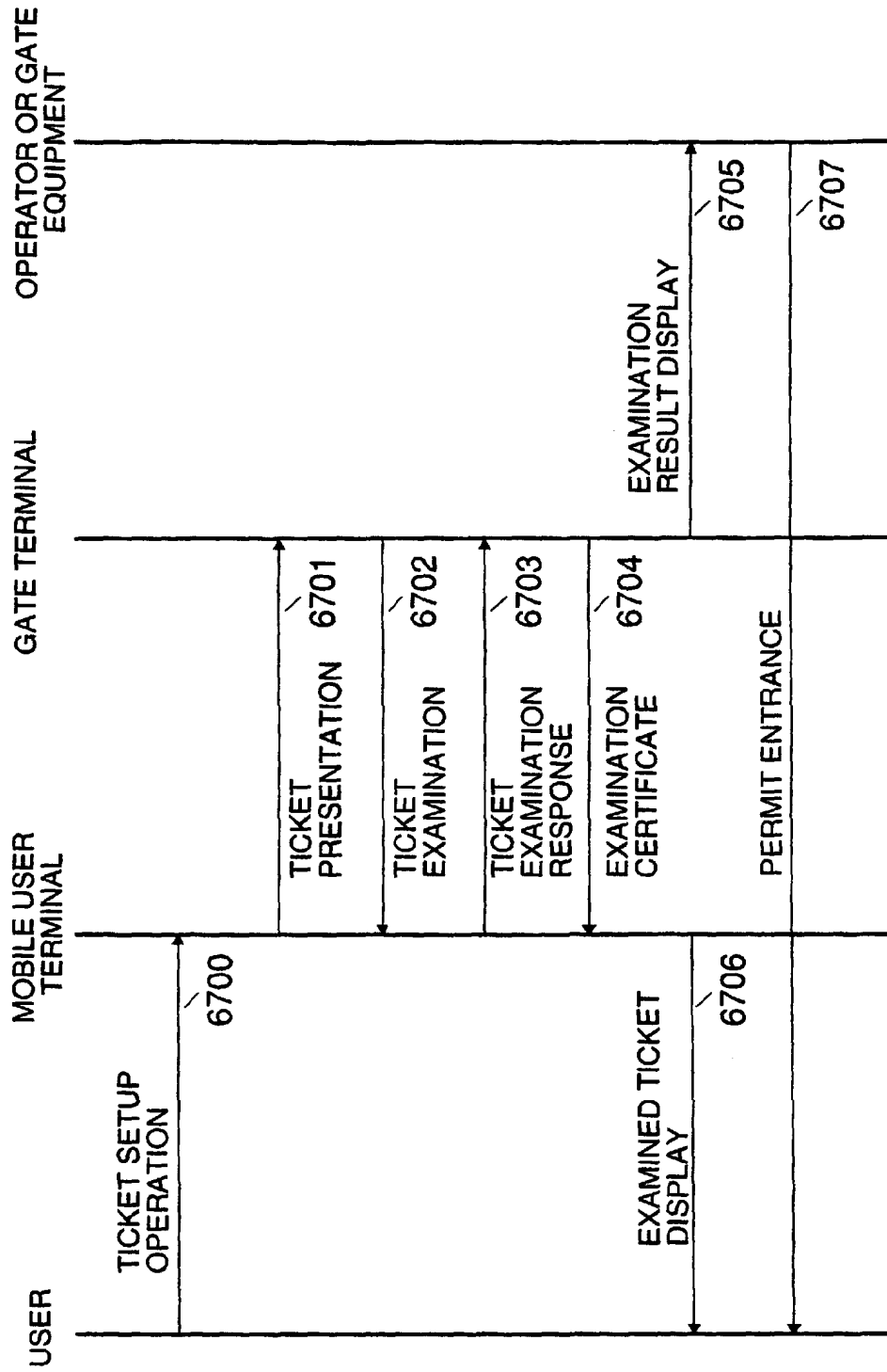


FIG. 68

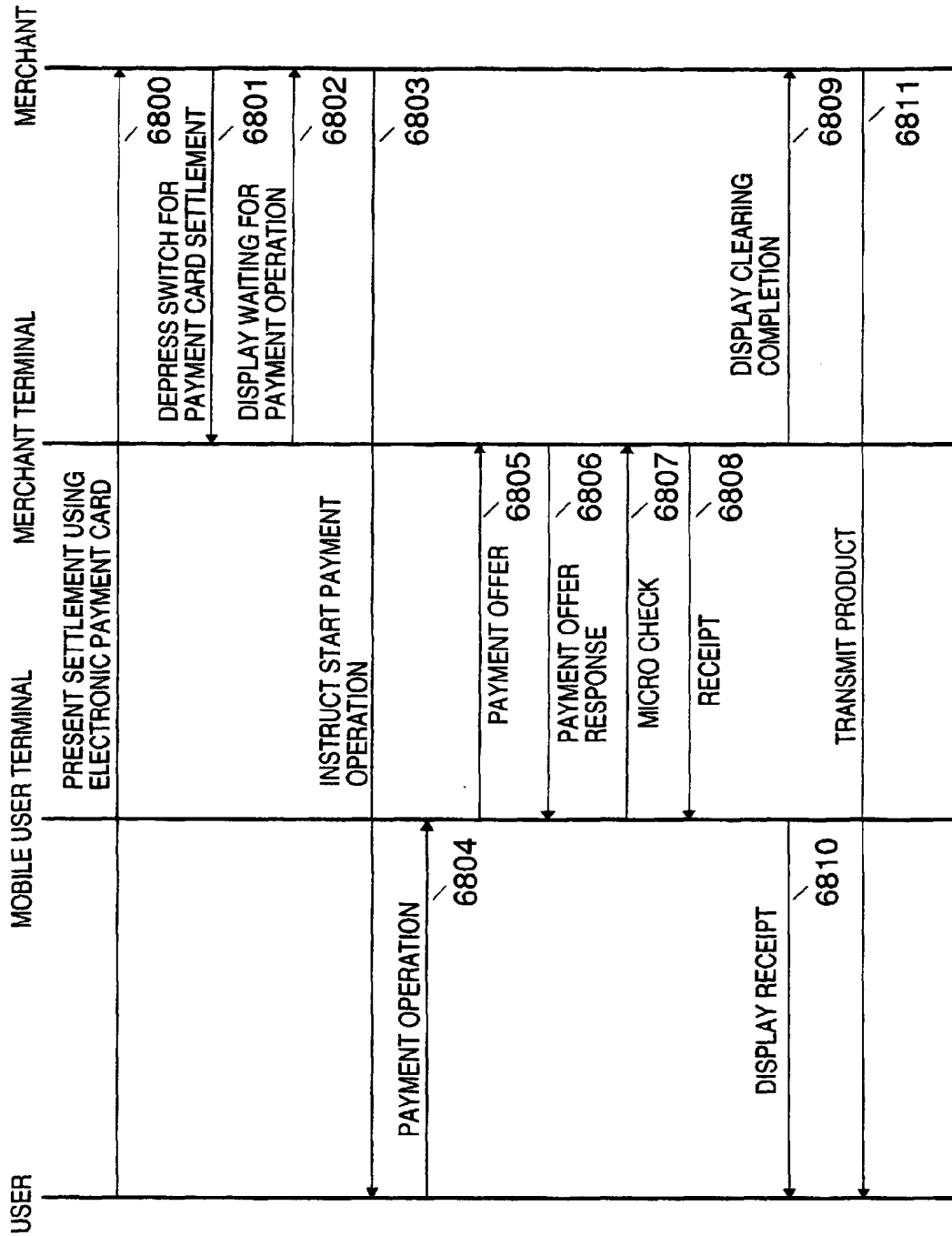


FIG. 69

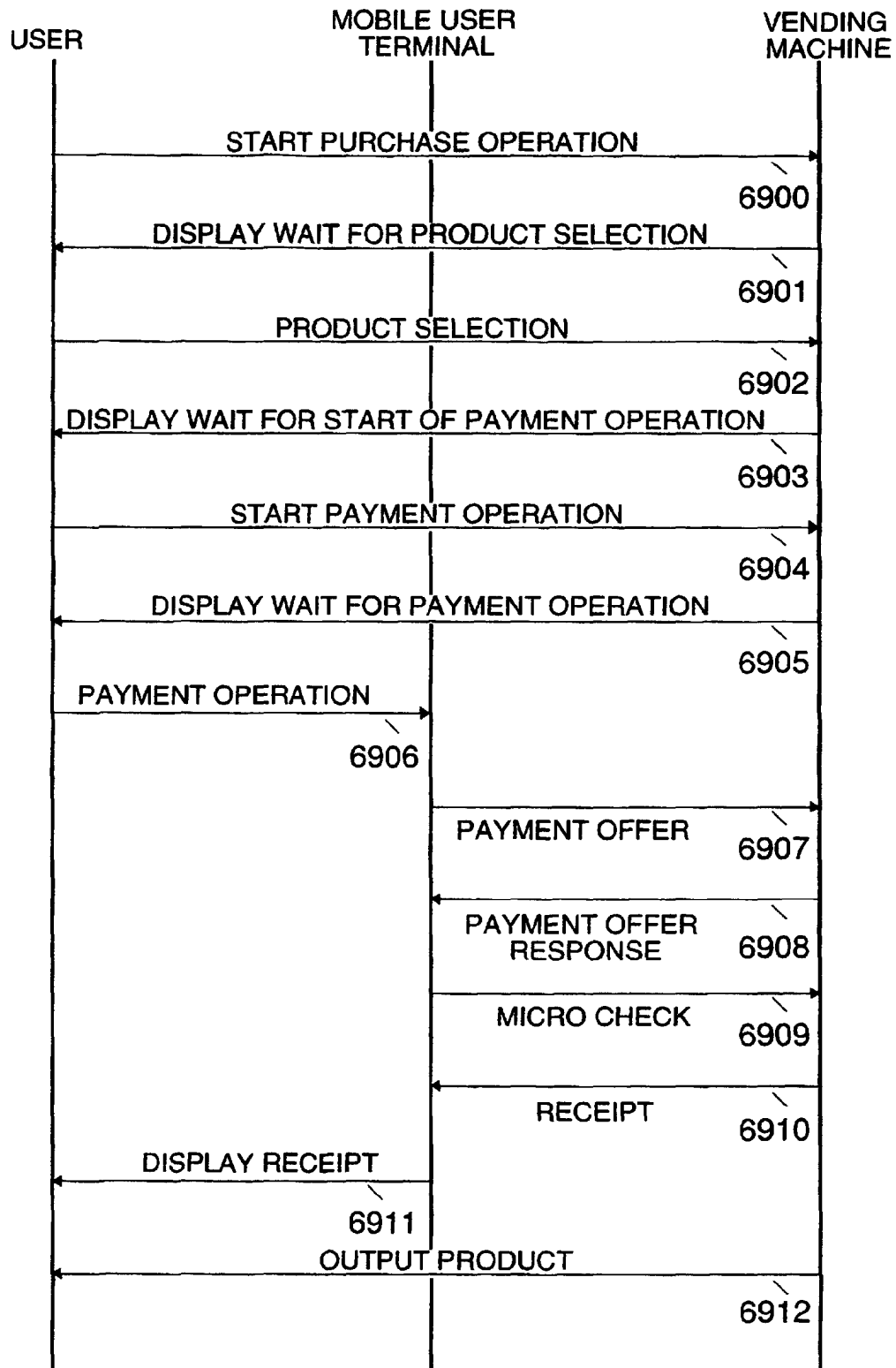


FIG. 70

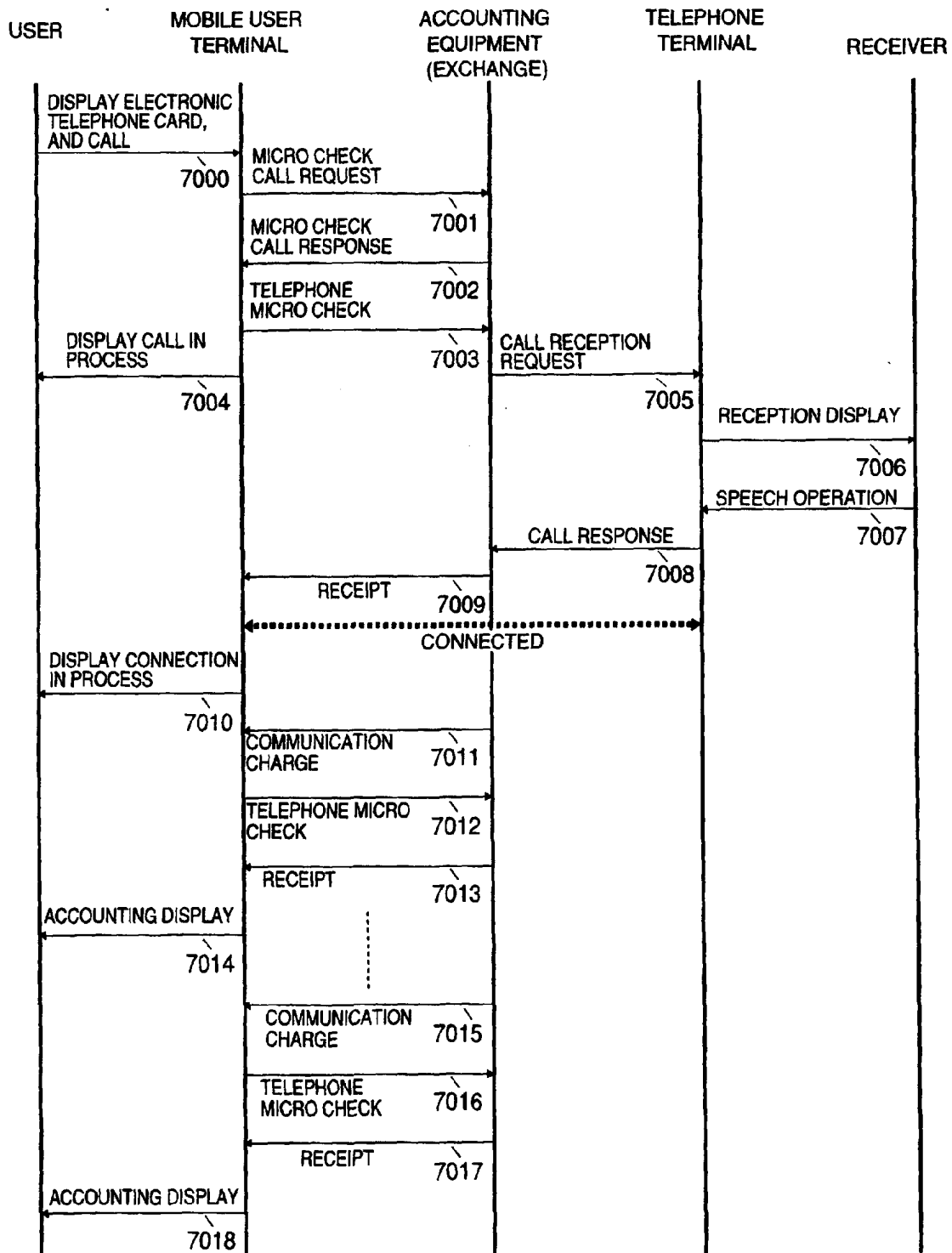


FIG. 71

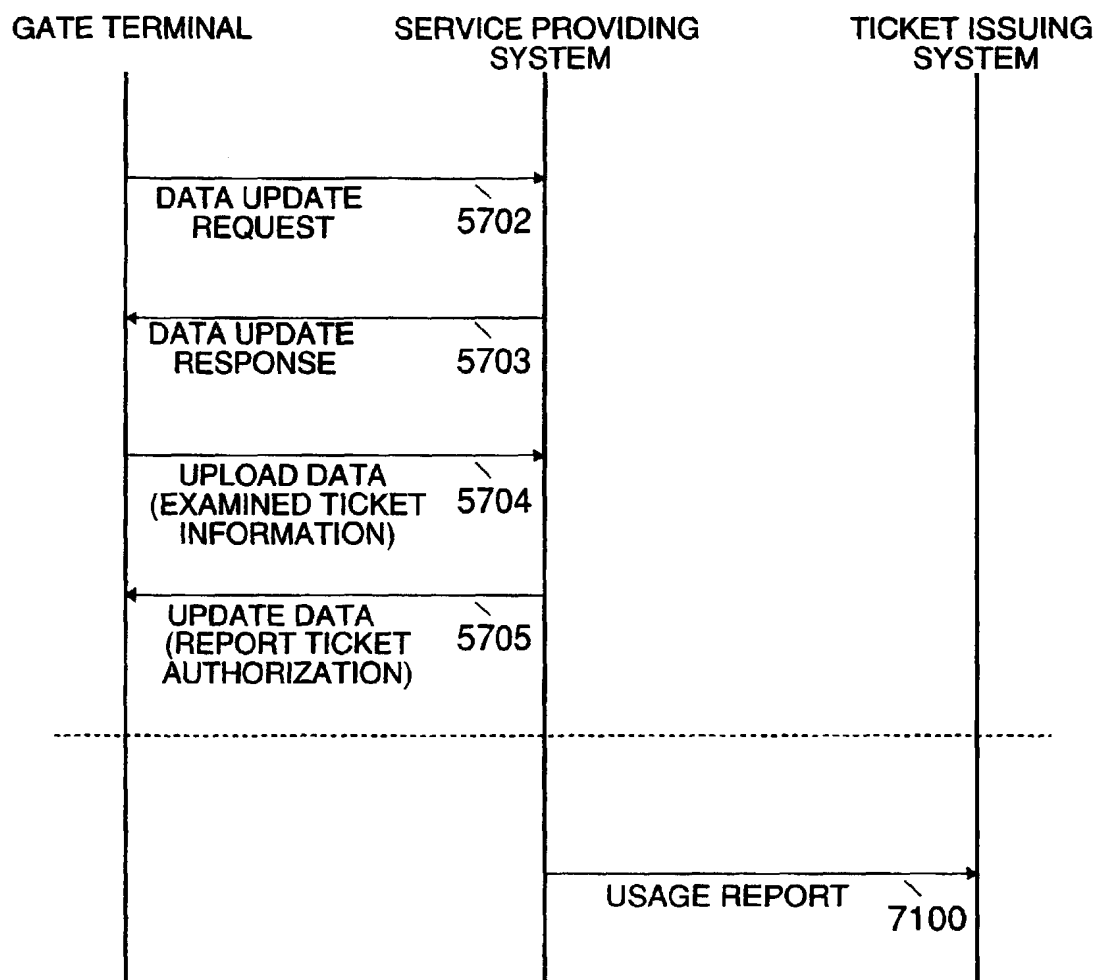


FIG. 72

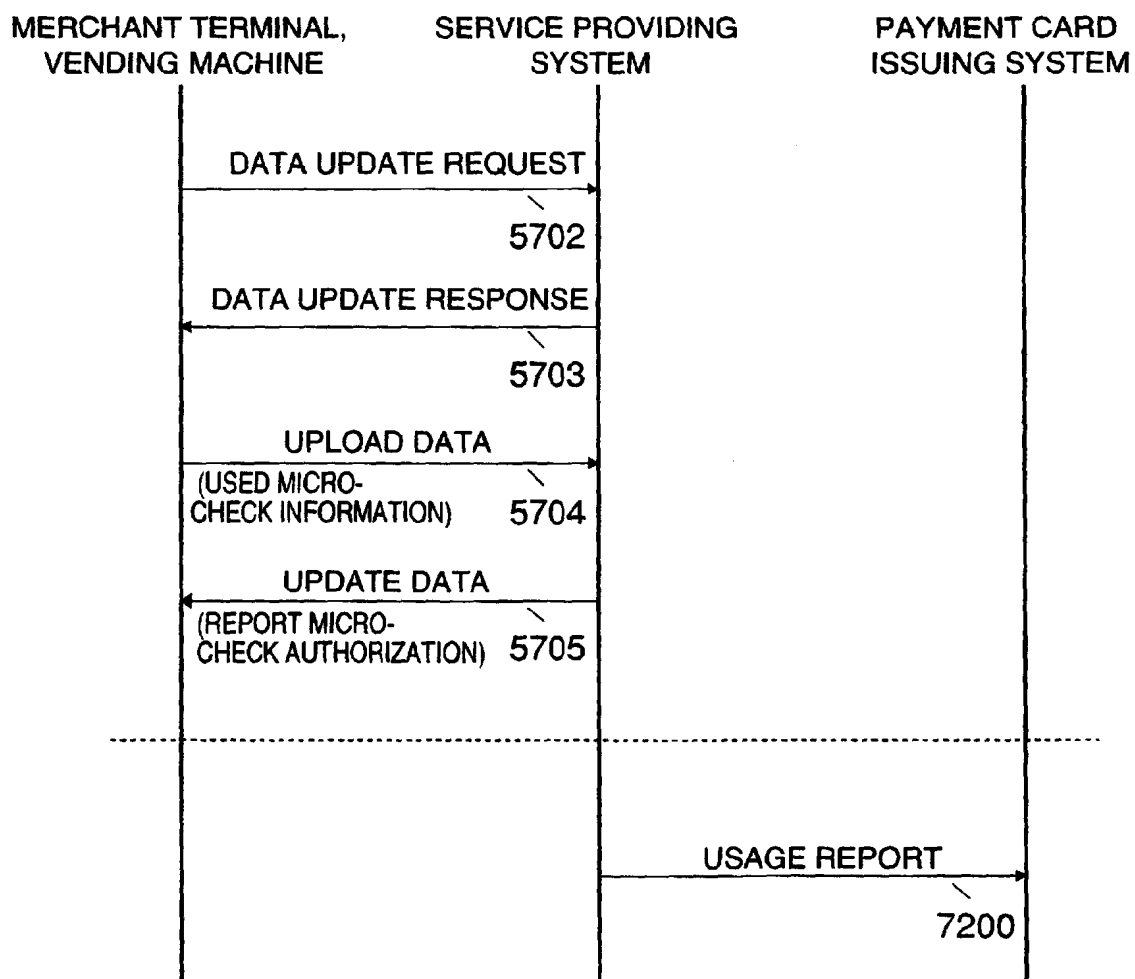


FIG. 73

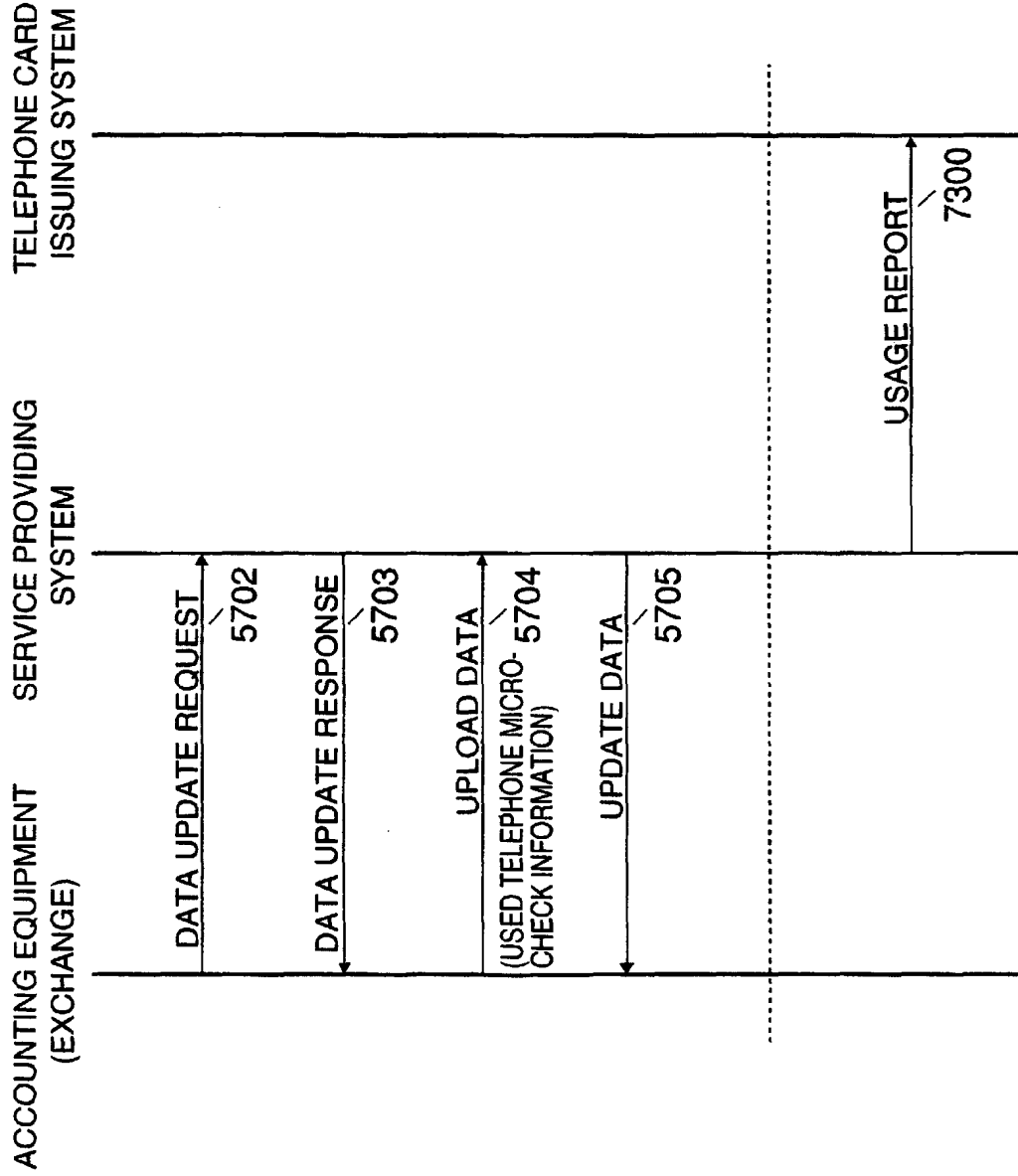


FIG. 74

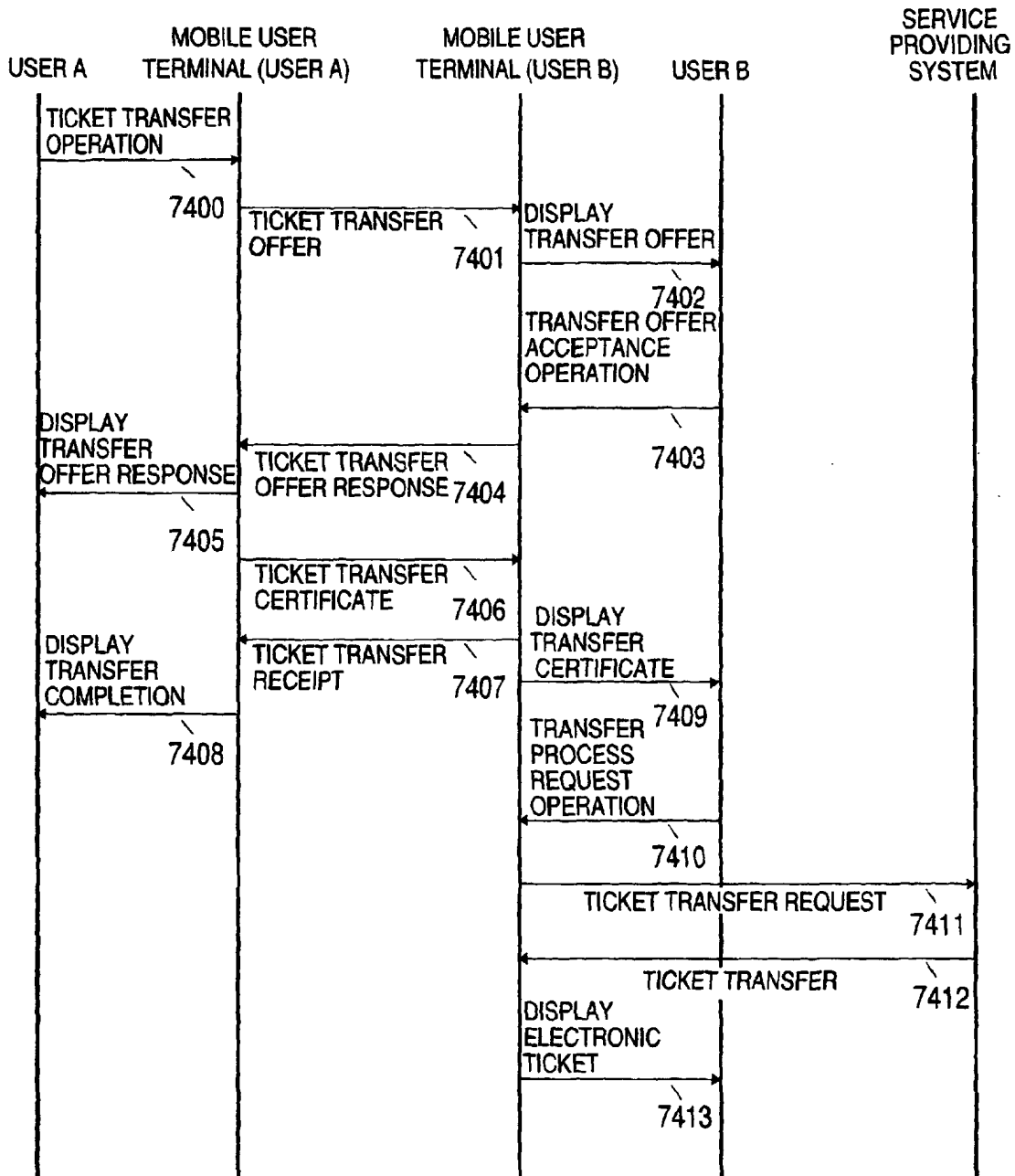


FIG. 75

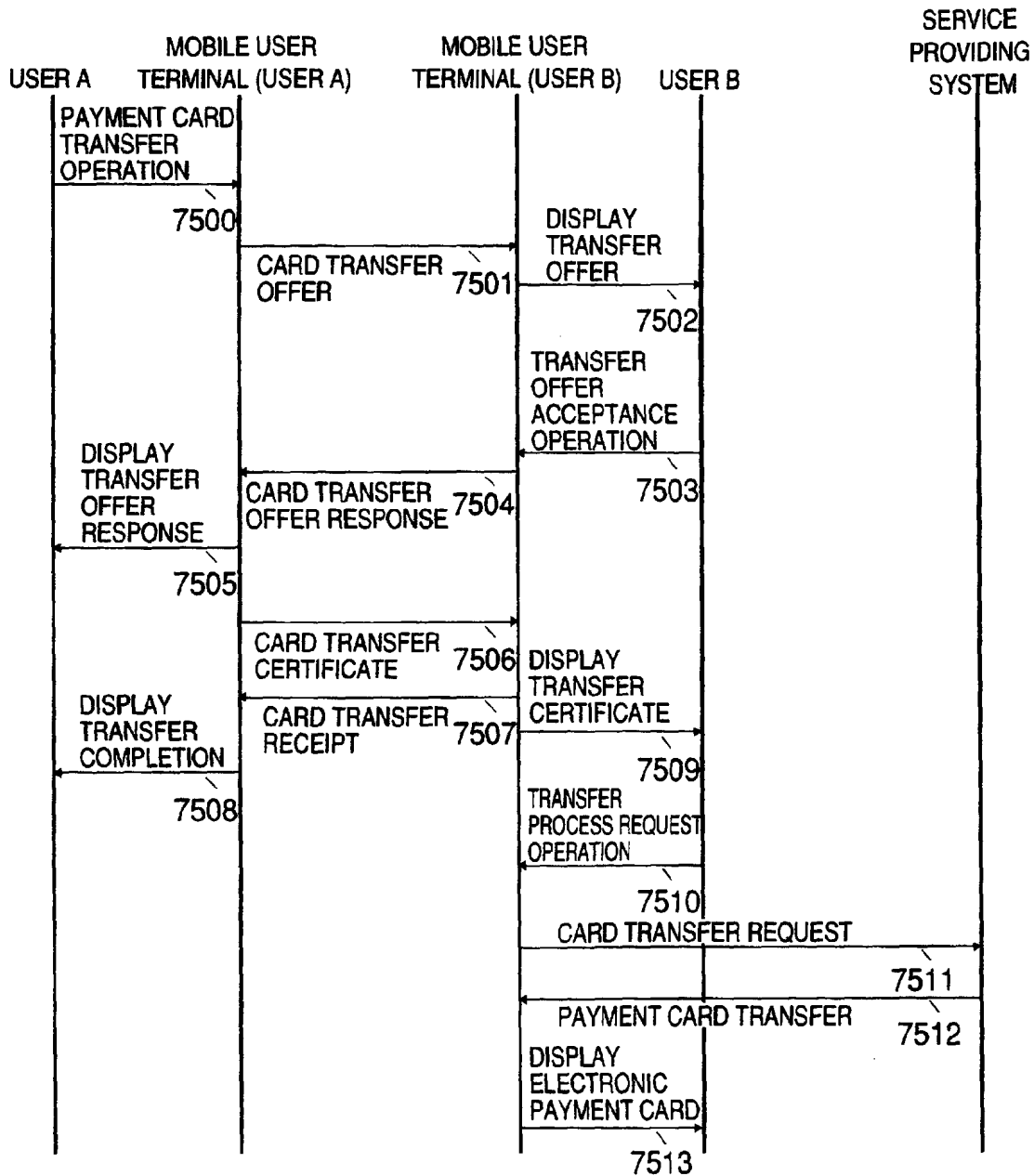


FIG. 76

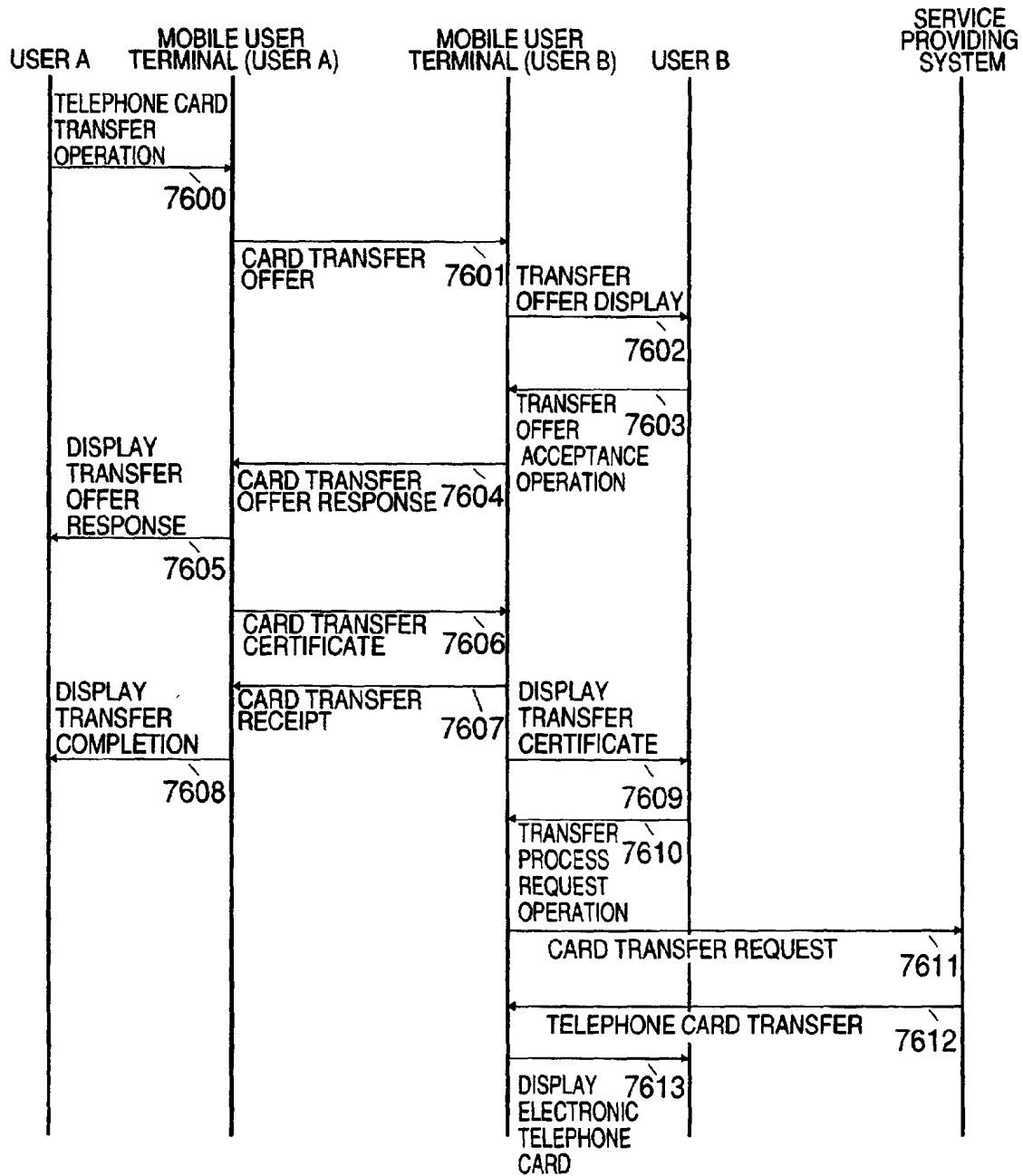


FIG. 77

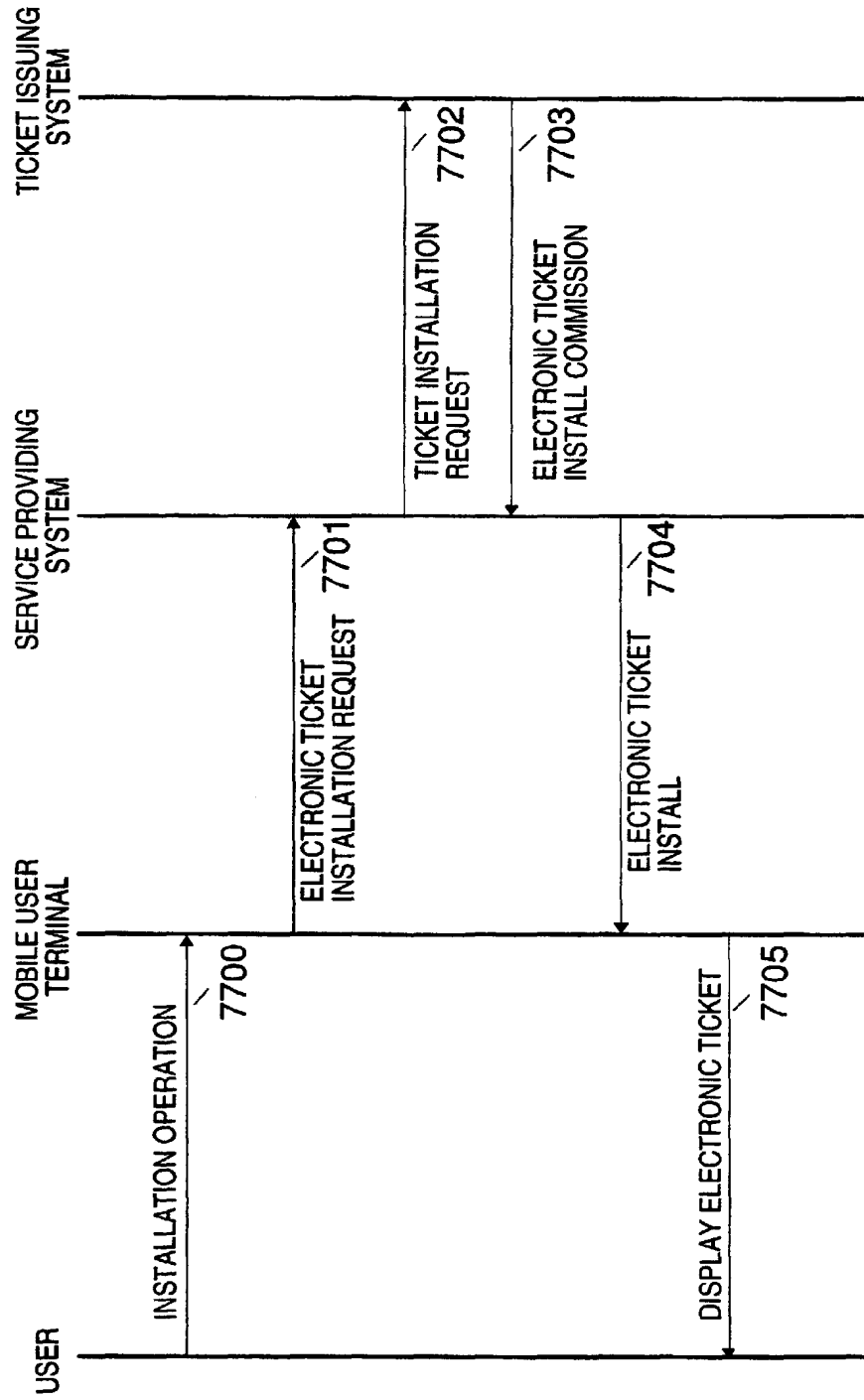


FIG. 78

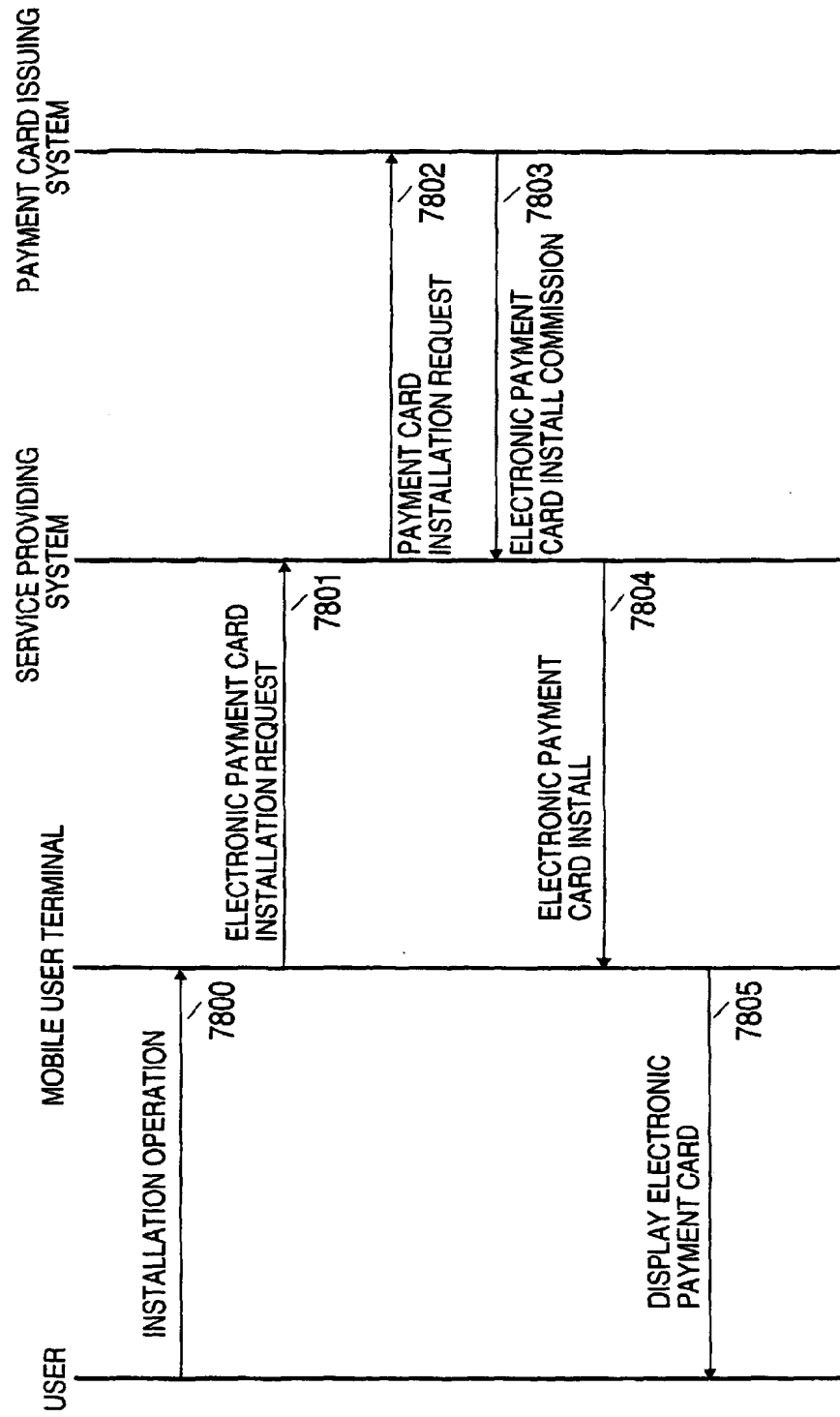


FIG. 79

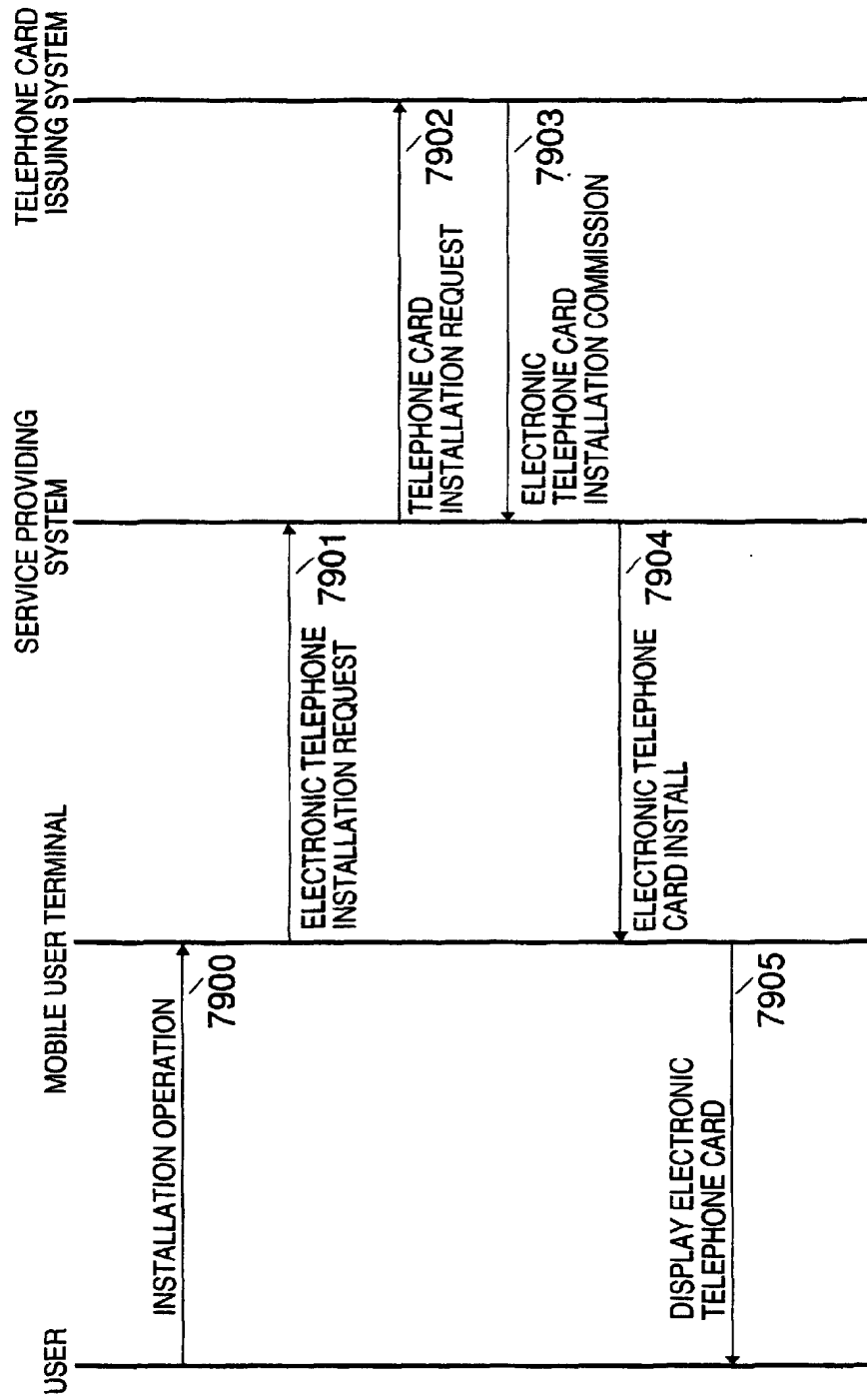


FIG. 80

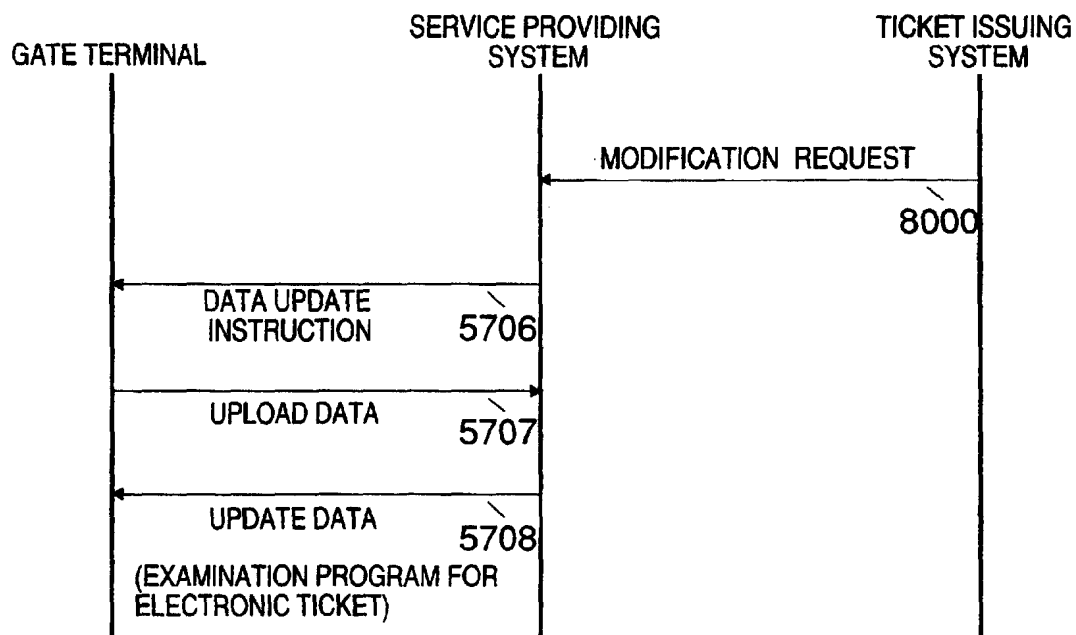


FIG. 81

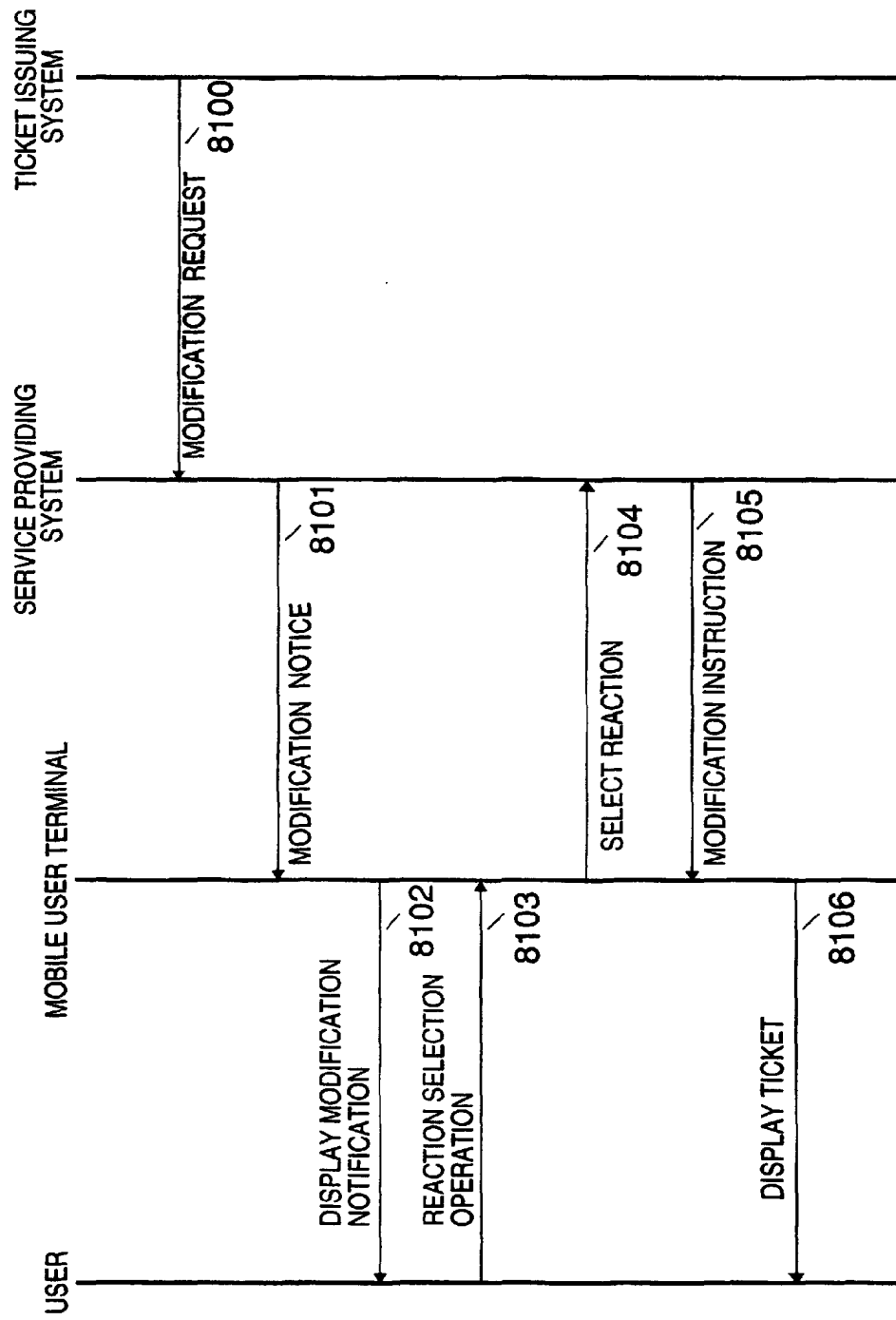


FIG. 82

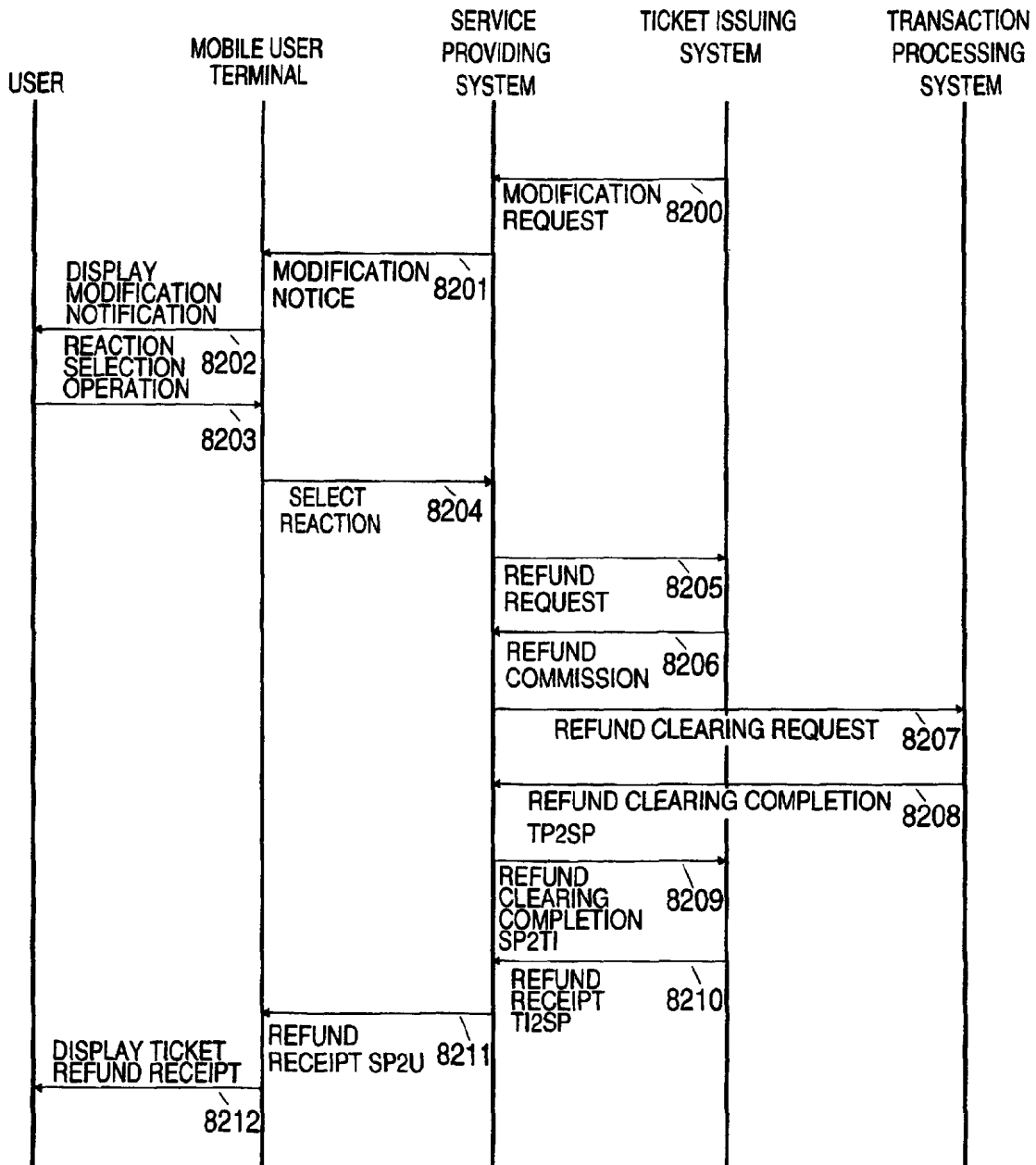


FIG. 83

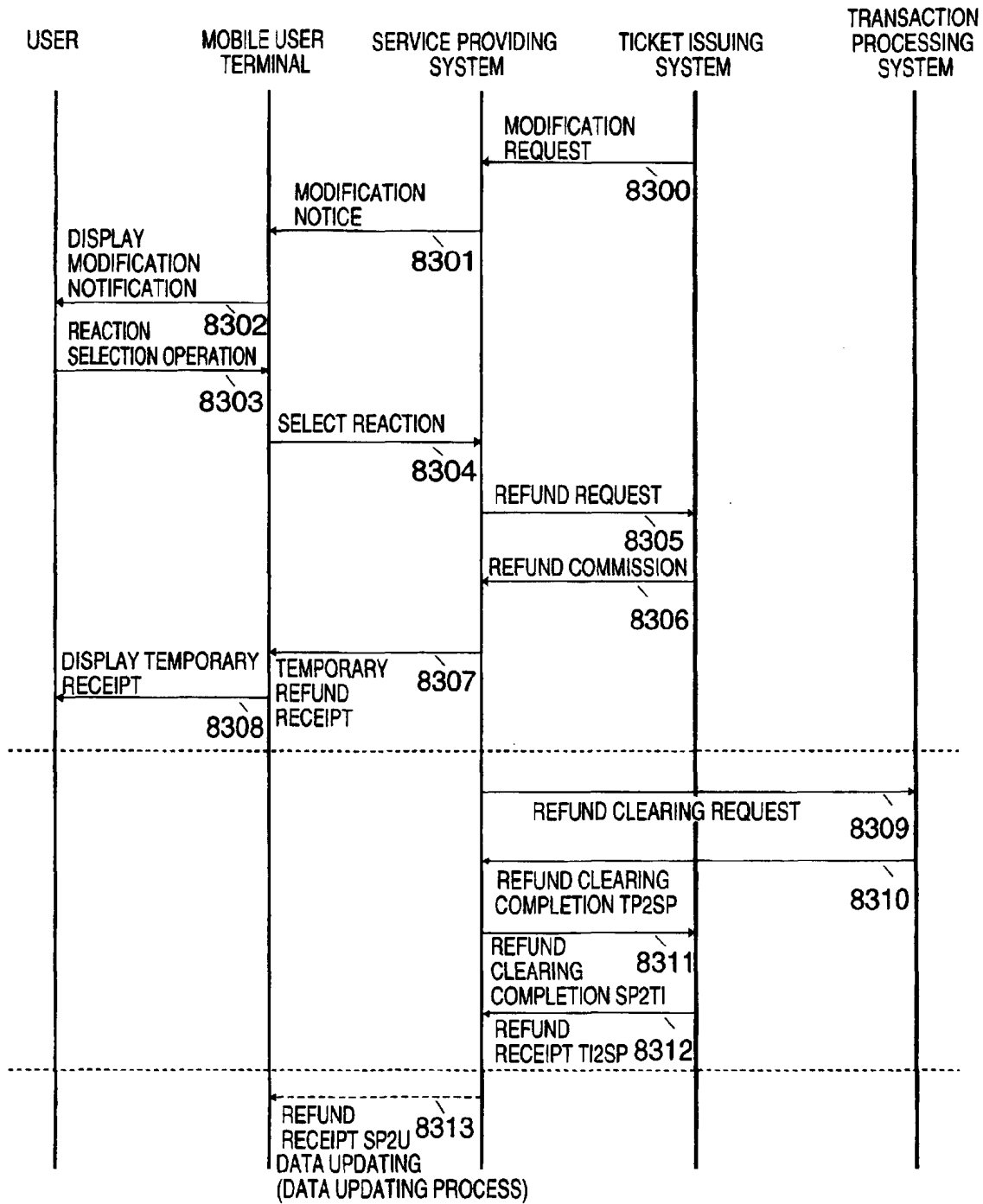


FIG. 84

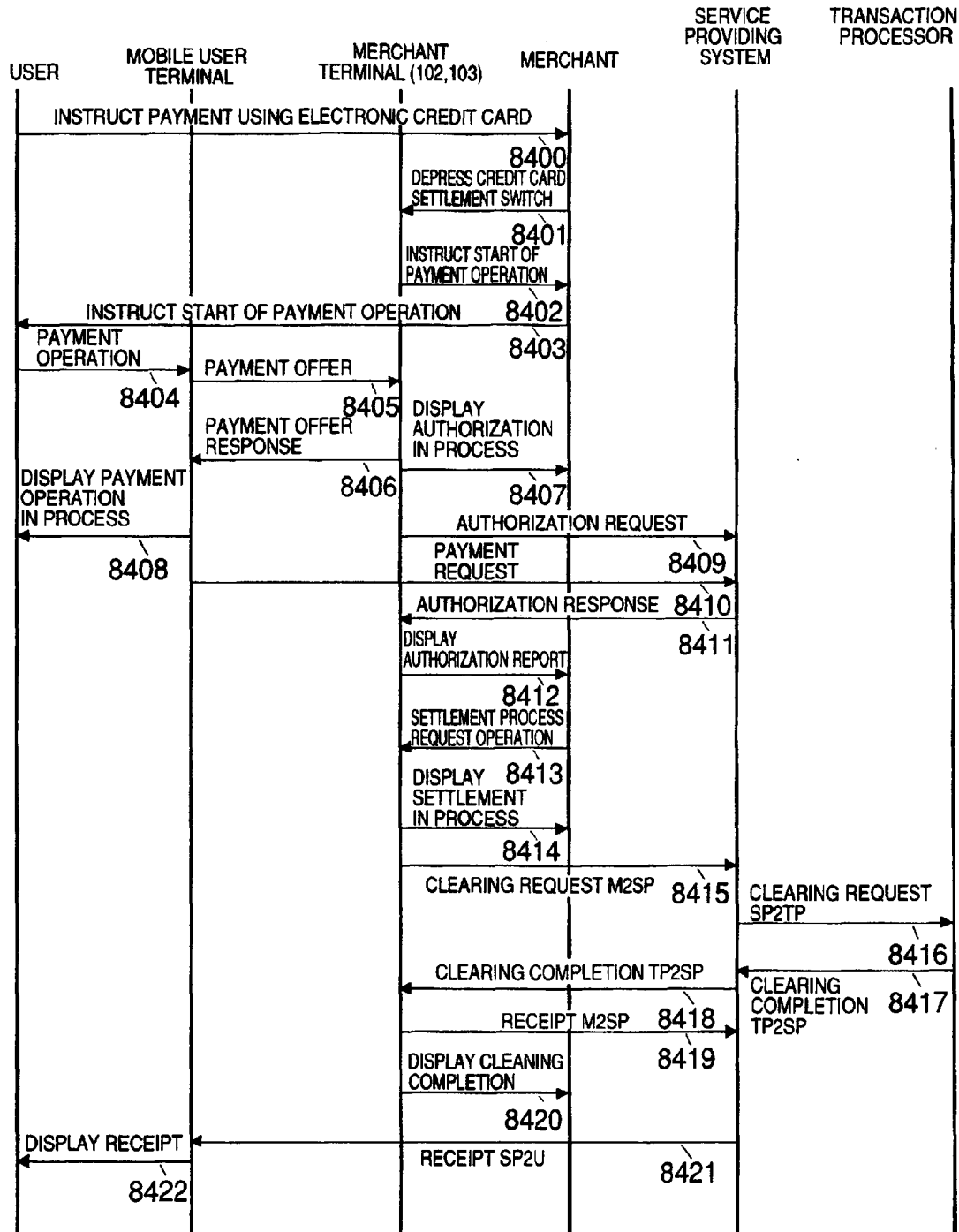


FIG.85A

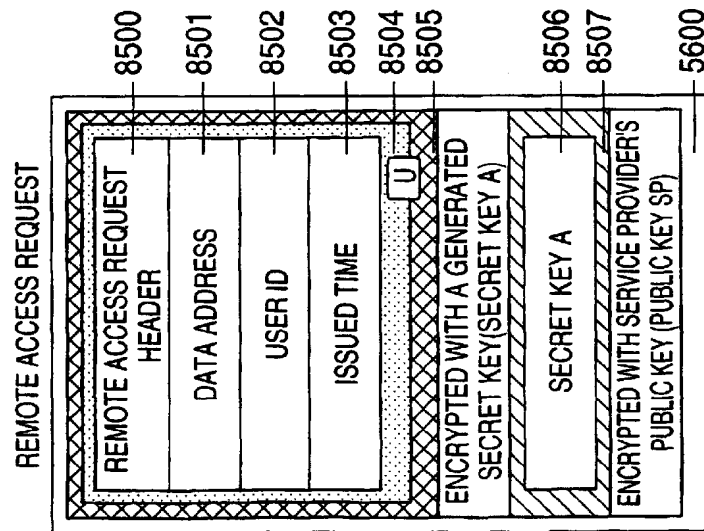


FIG.85B

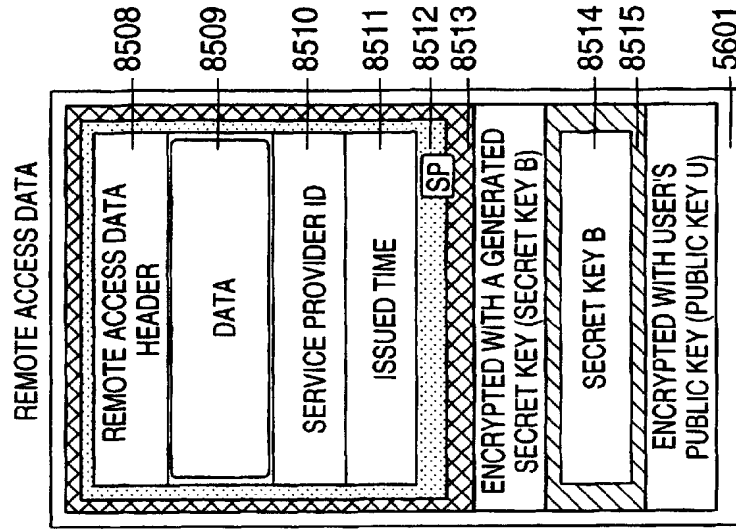


FIG.86A

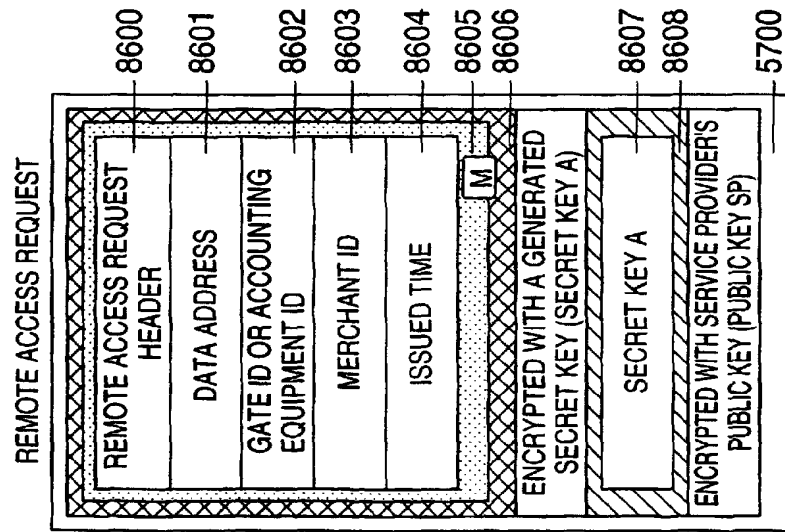


FIG.86B

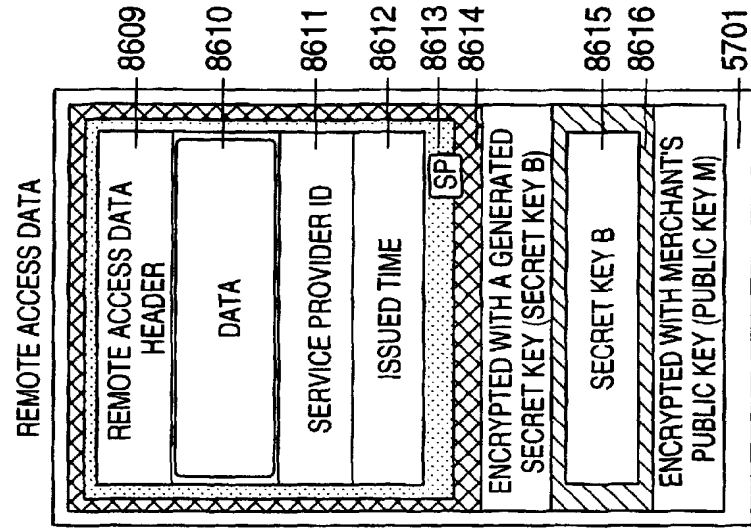


FIG.87A

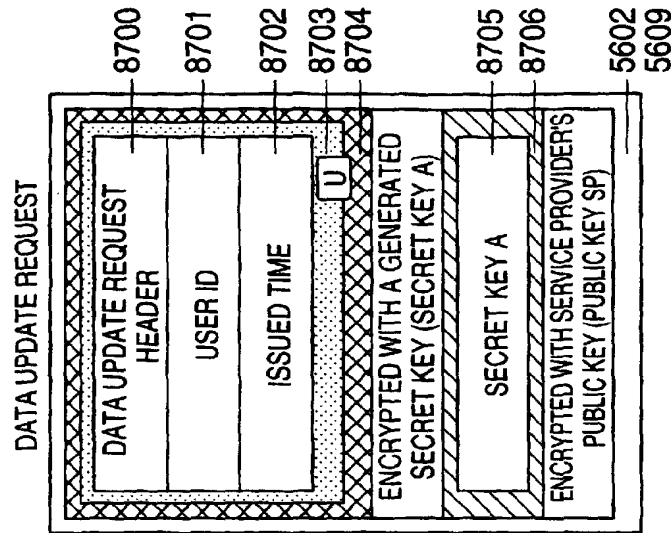


FIG.87B

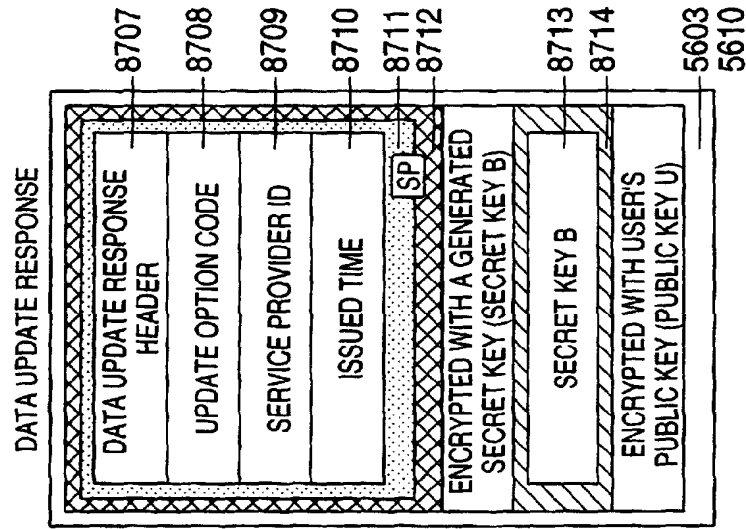


FIG.87C

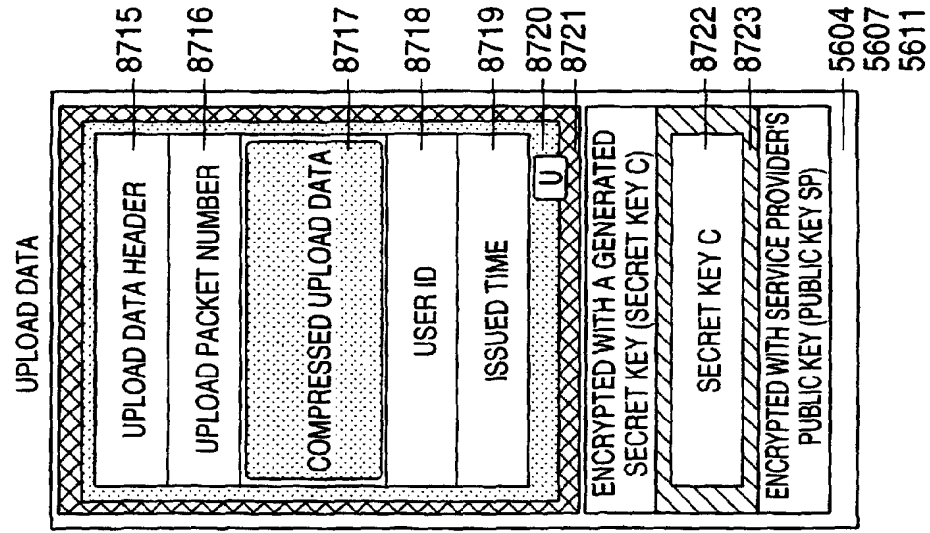


FIG.87D

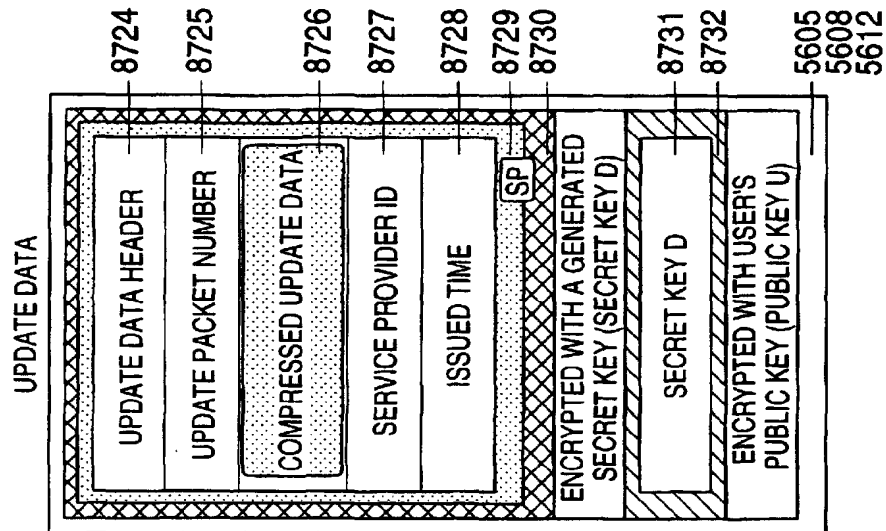


FIG.87E

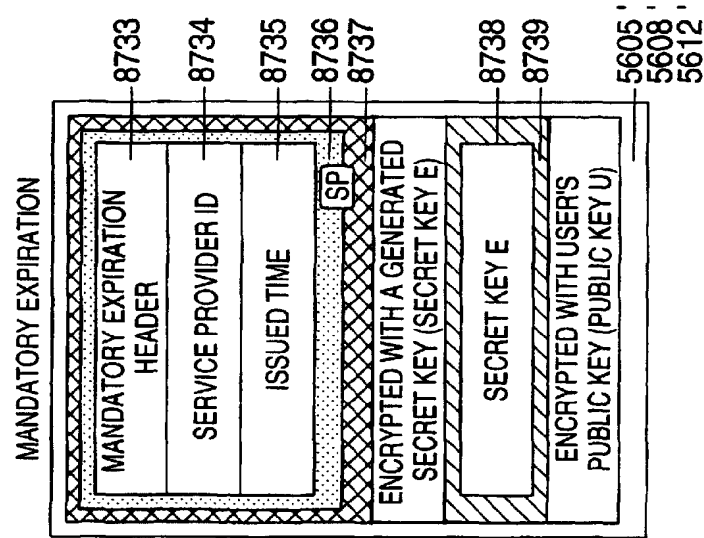


FIG.87F

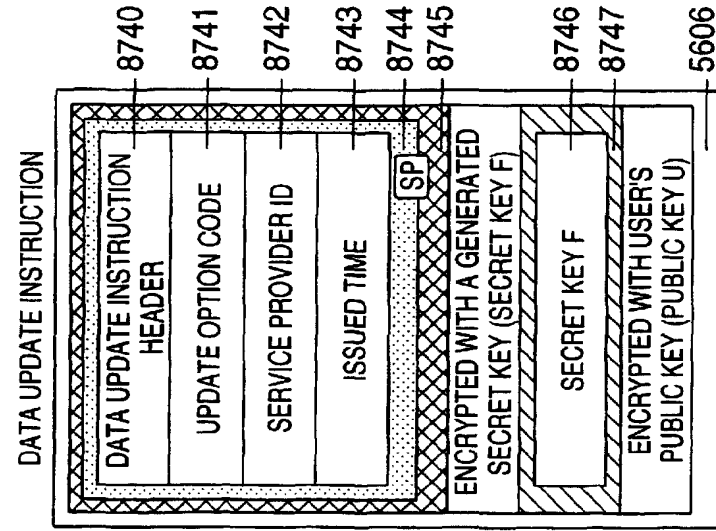


FIG.88A

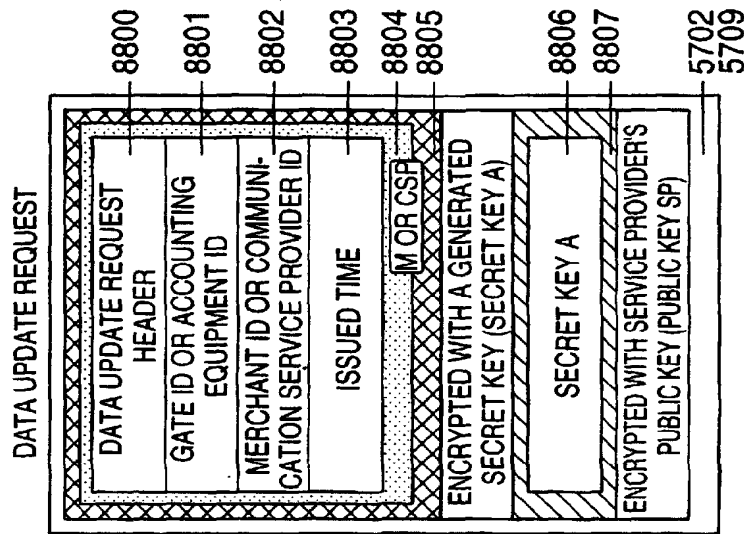


FIG.88B

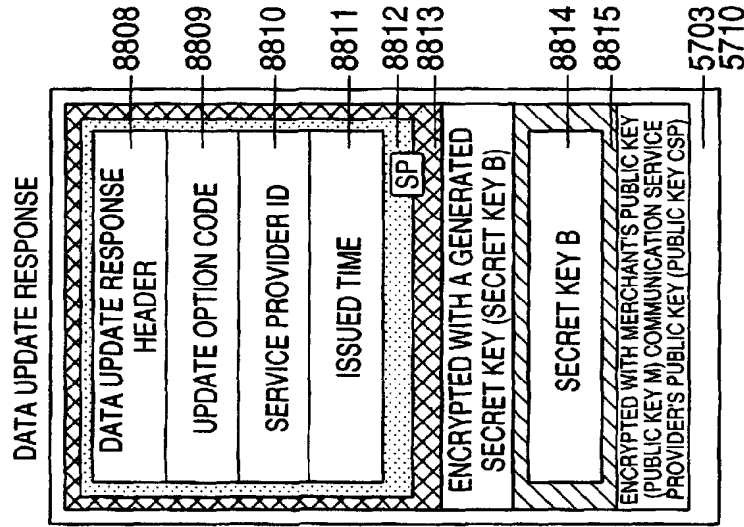


FIG.88C

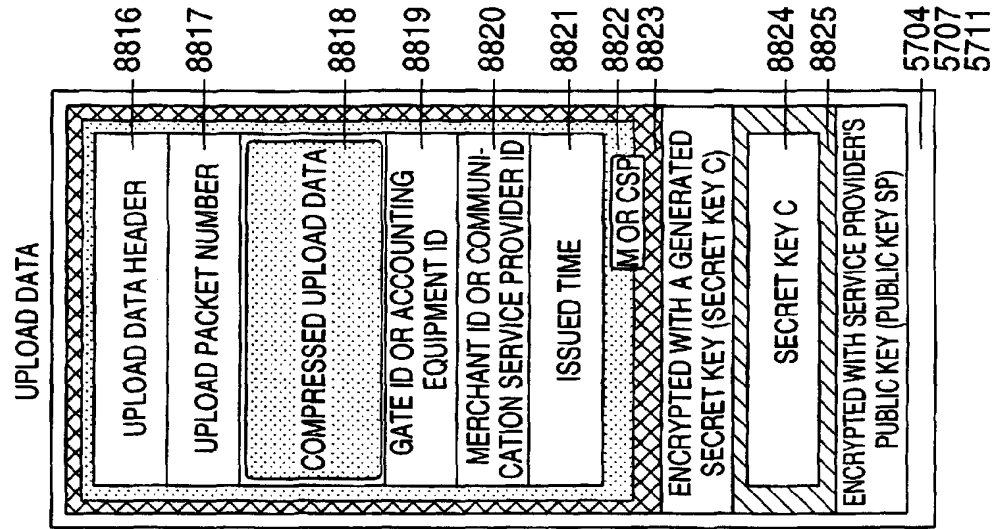


FIG.88D

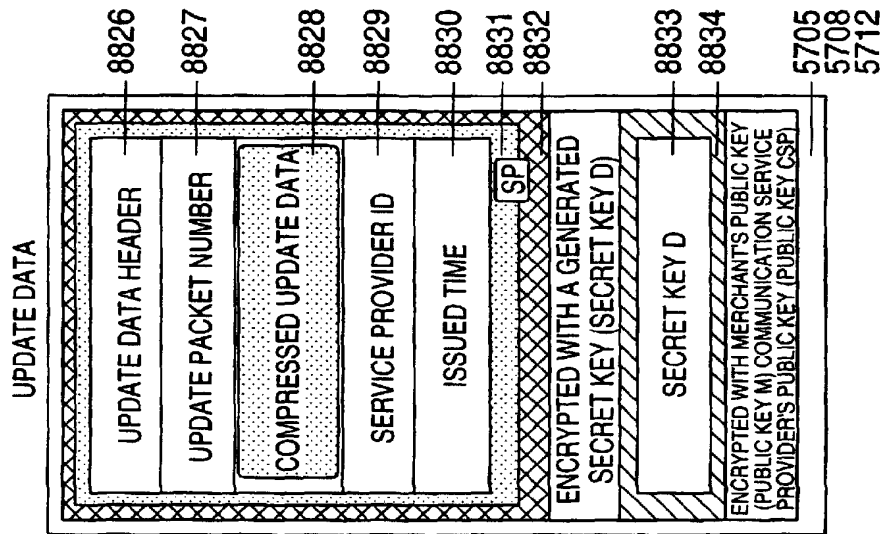


FIG.88E

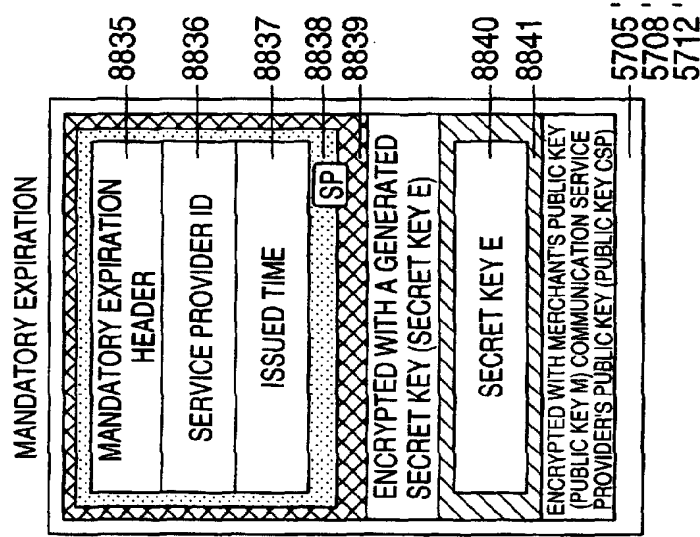


FIG.88F

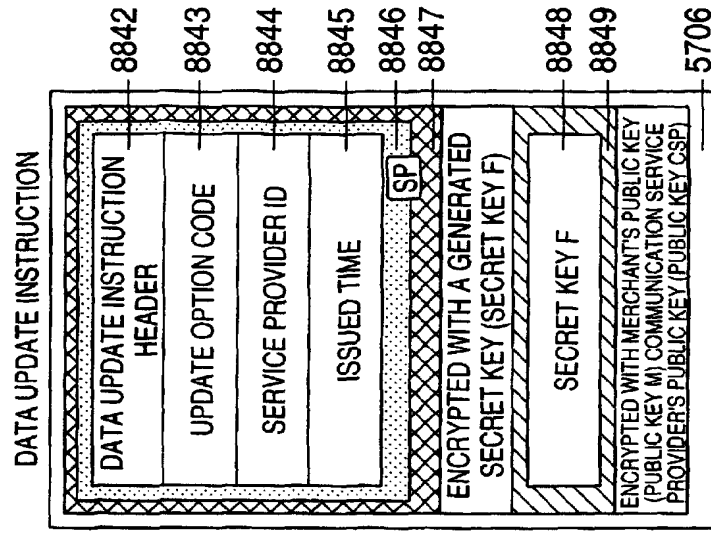


FIG. 89A

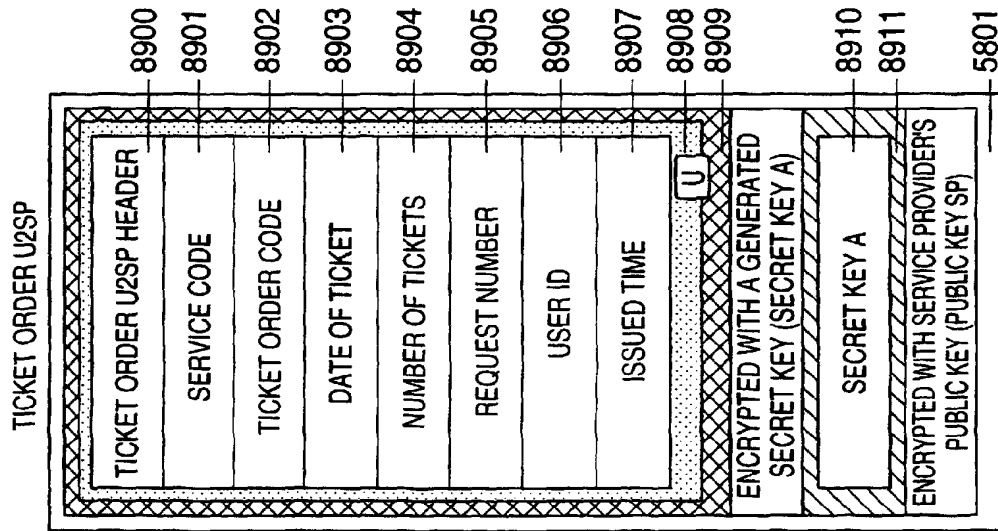
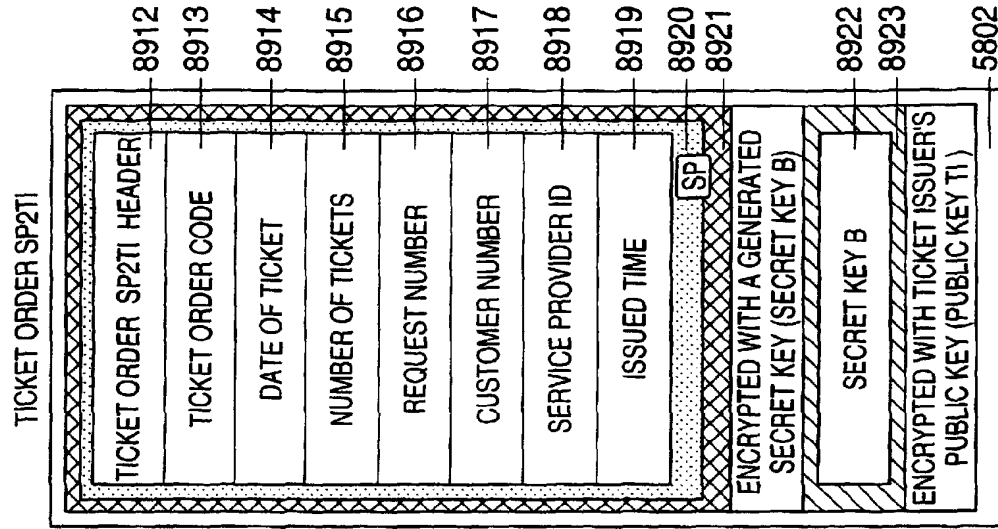


FIG. 89B



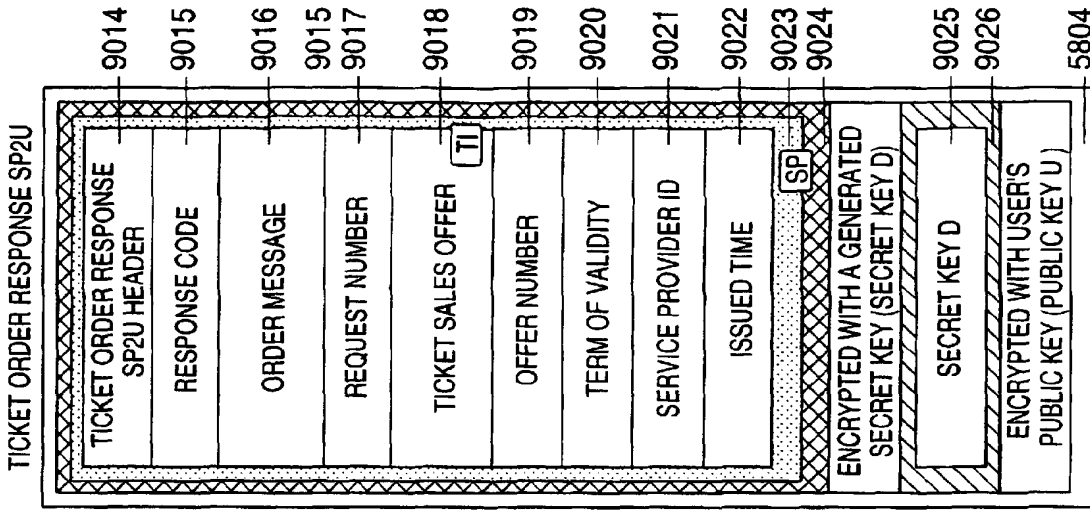


FIG. 90B

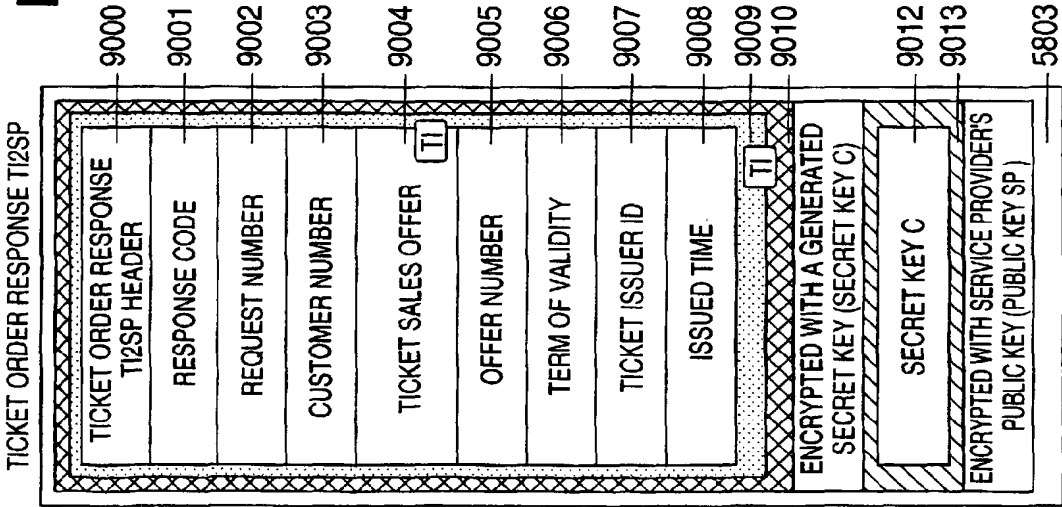


FIG.91A

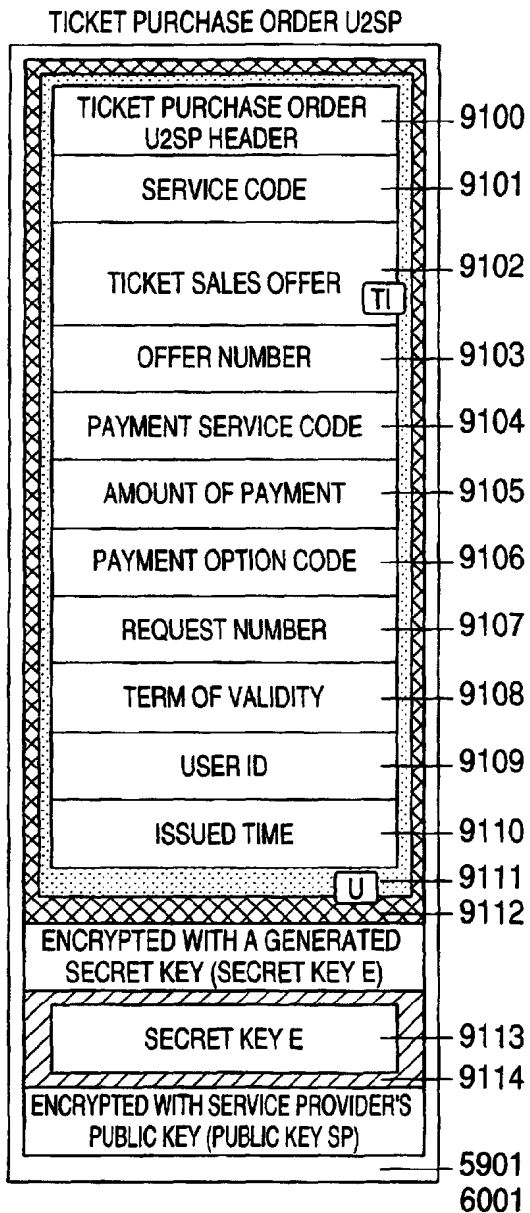


FIG.91B

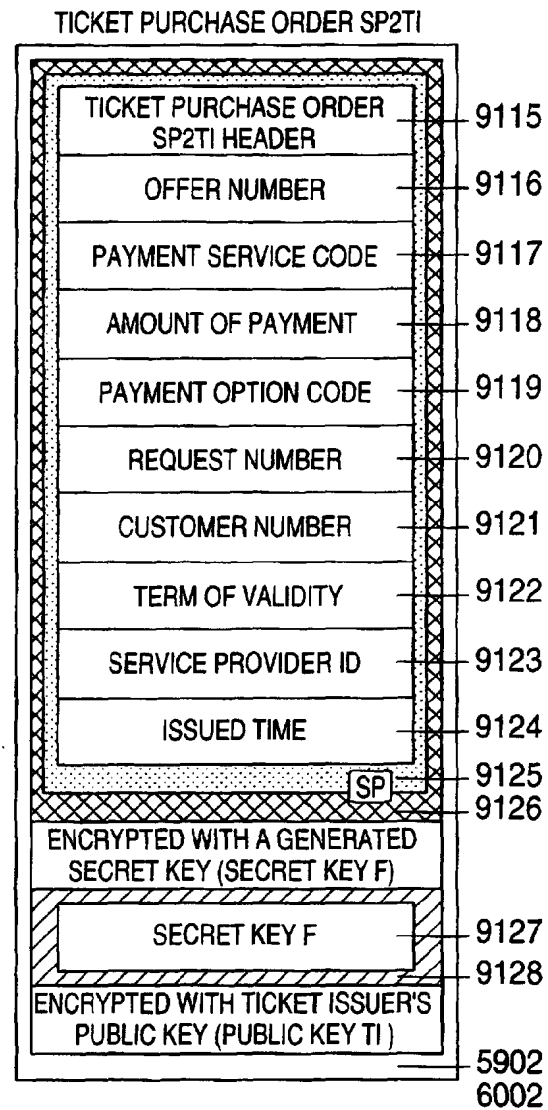


FIG.92A

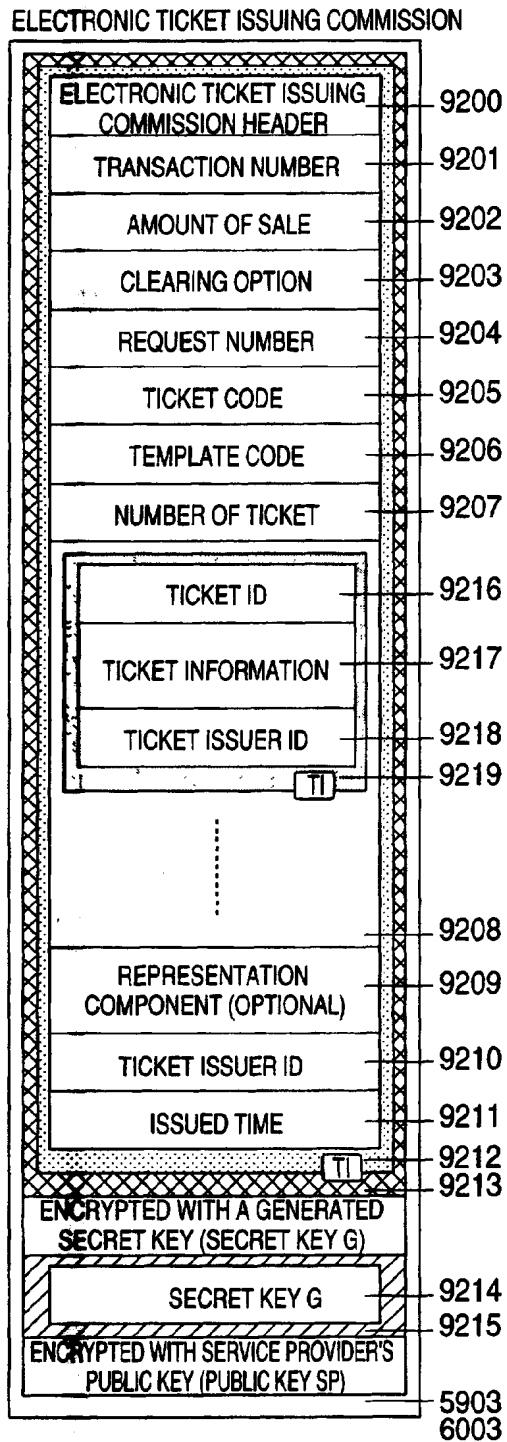


FIG.92B

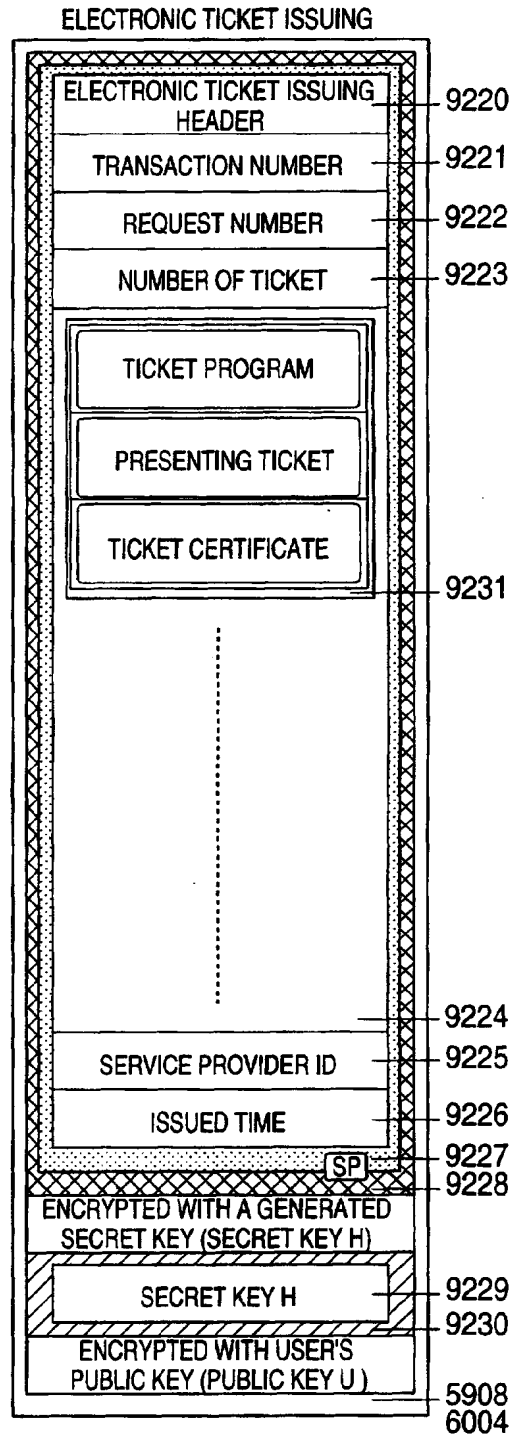


FIG.93A

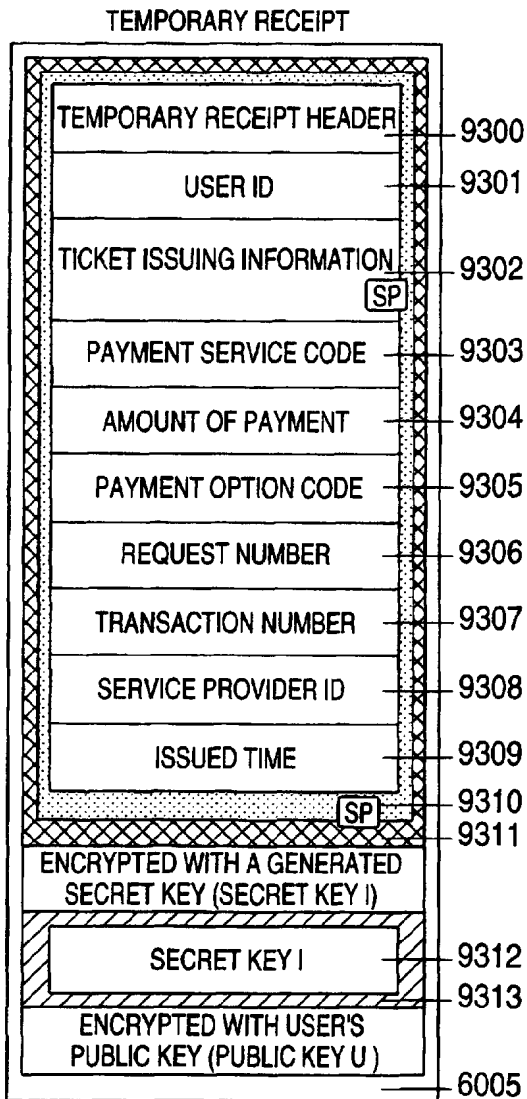


FIG.93B

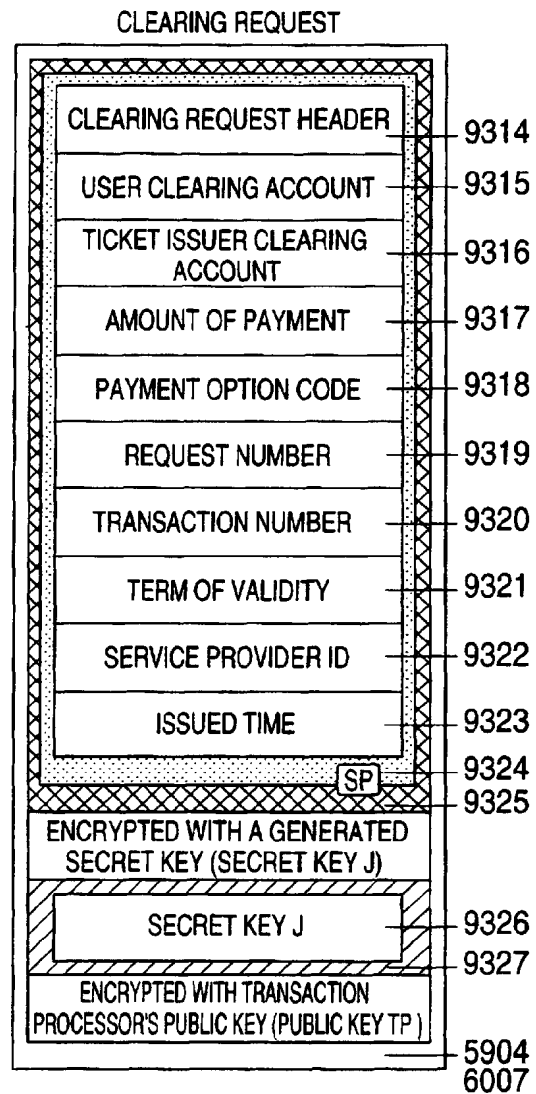


FIG.94A

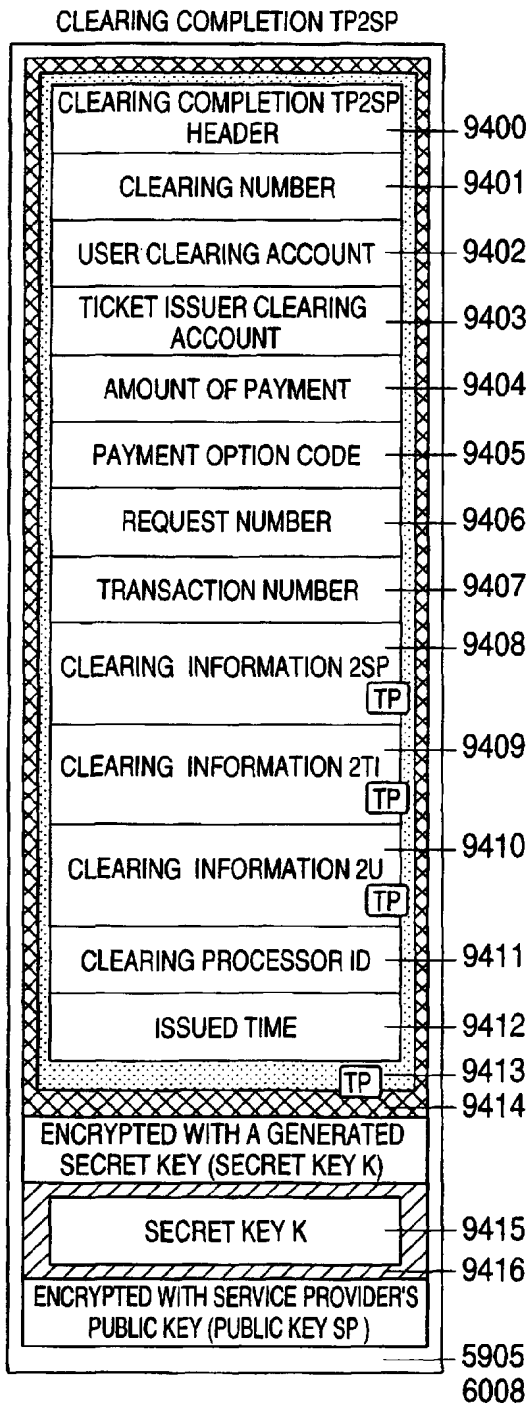


FIG.94B

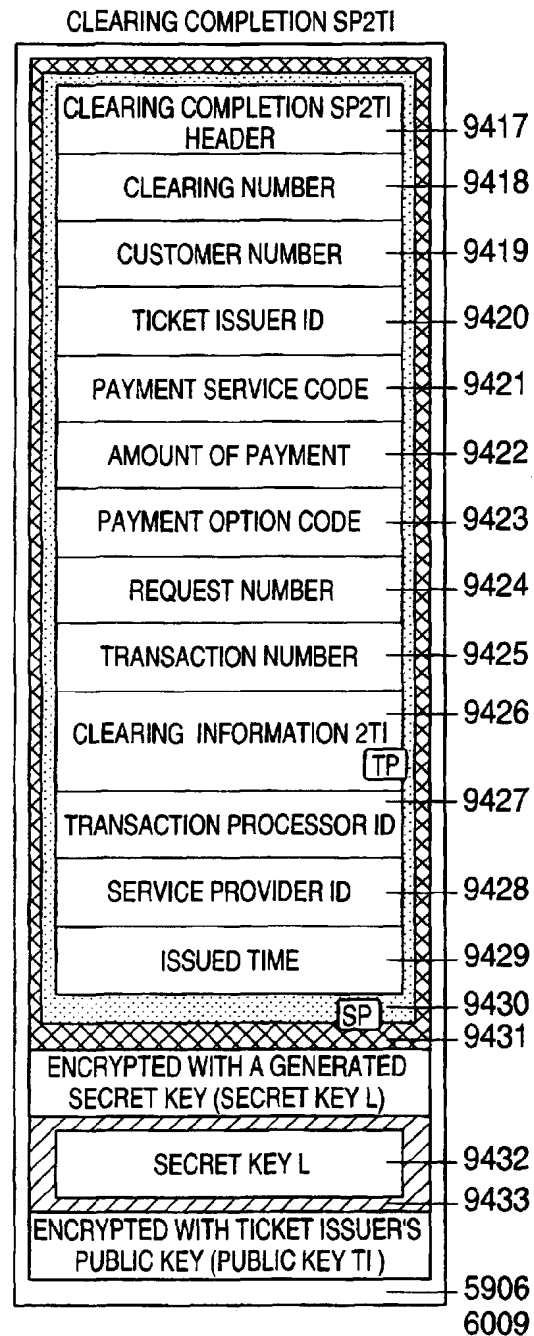


FIG.95A

RECEIPT TI2SP

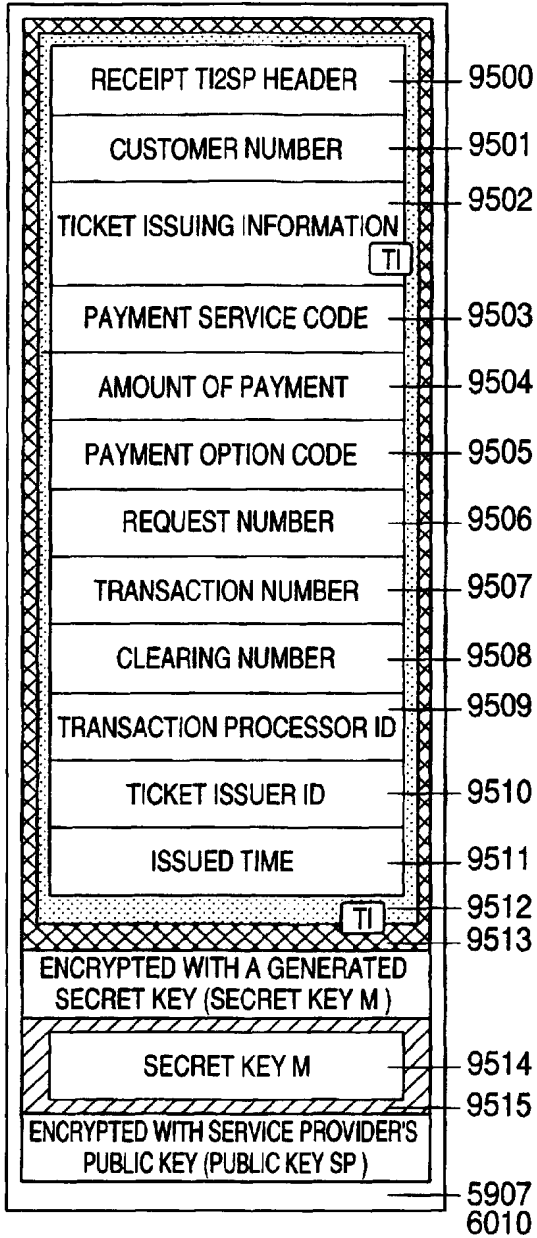


FIG.95B

RECEIPT SP2U

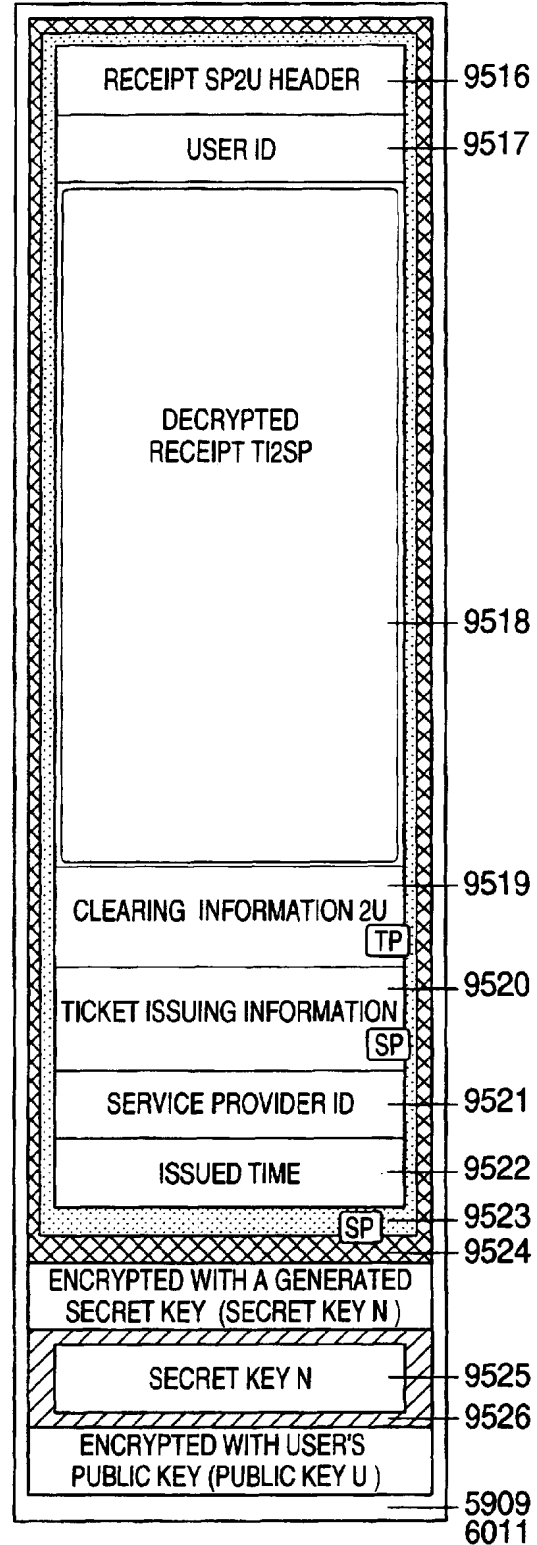


FIG.96A

PAYMENT CARD PURCHASE ORDER U2SP

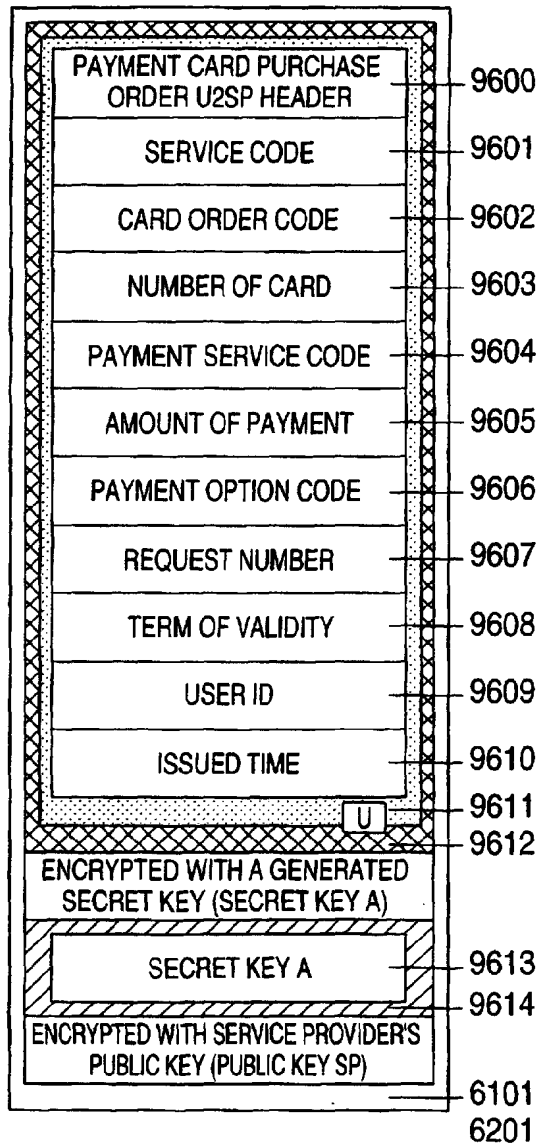


FIG.96B

PAYMENT CARD PURCHASE ORDER SP2PCI

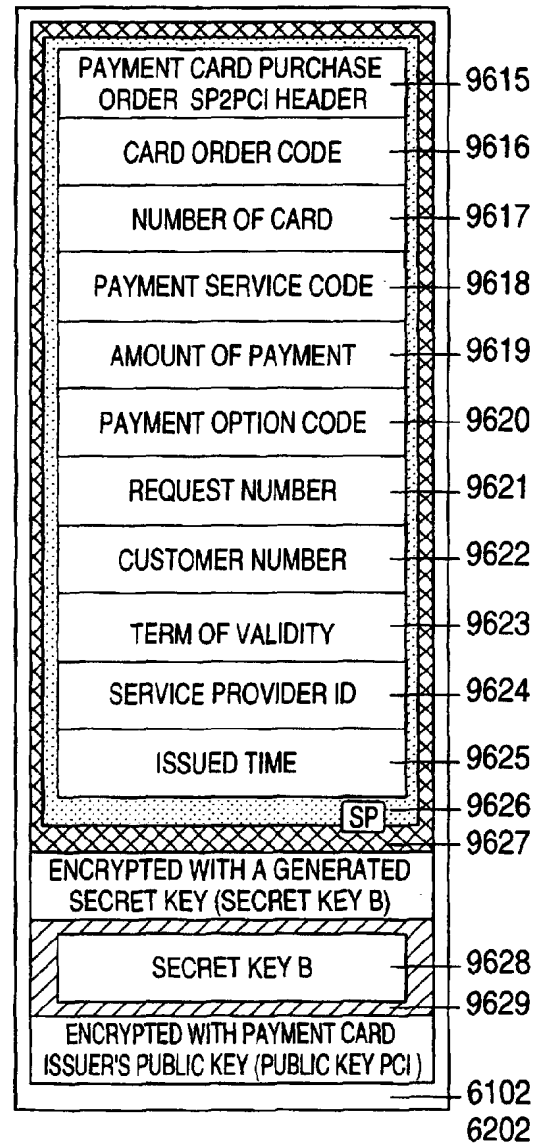


FIG.97A

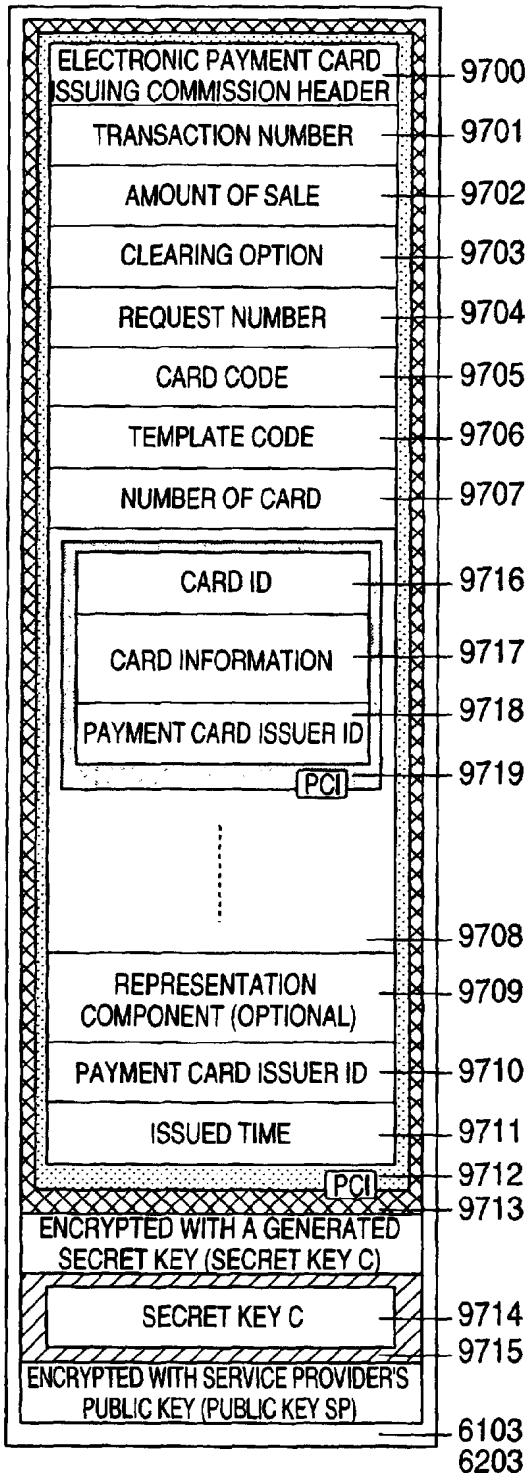
ELECTRONIC PAYMENT CARD
ISSUING COMMISSION

FIG.97B

ELECTRONIC PAYMENT CARD ISSUING

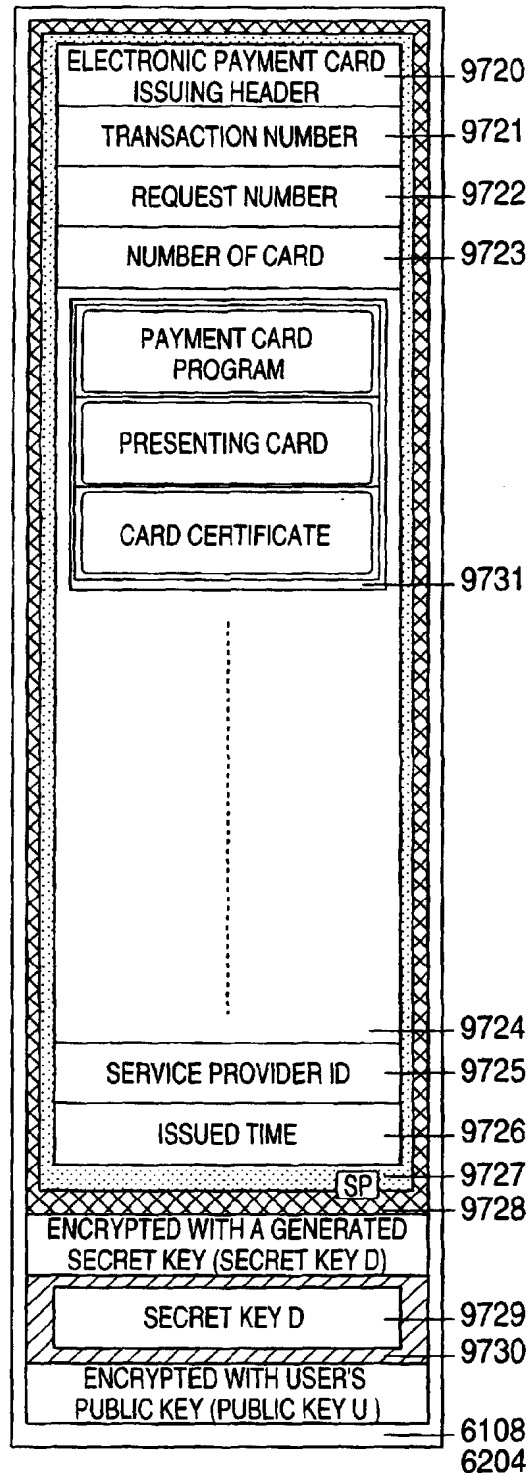


FIG.98A

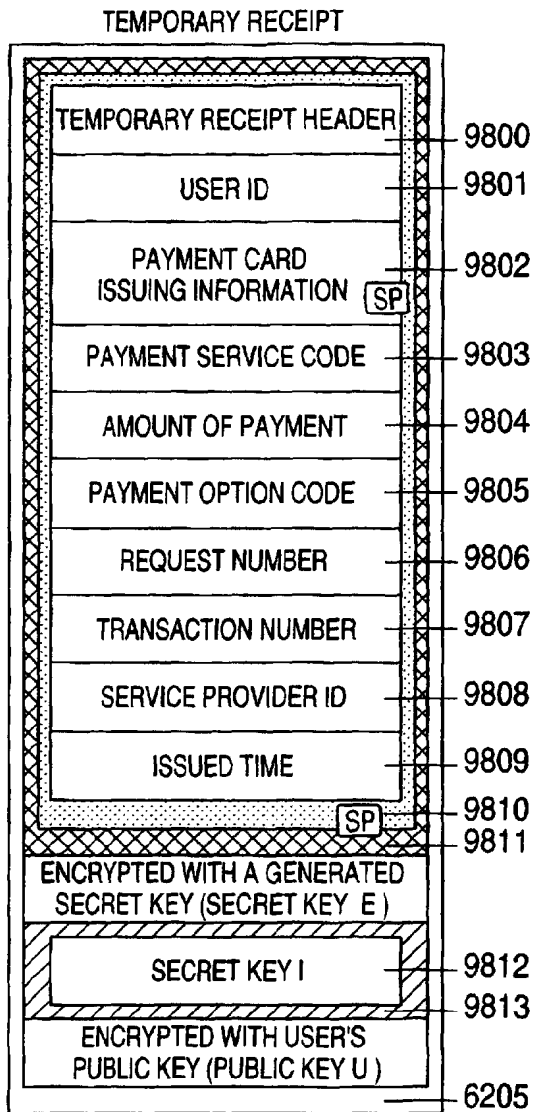


FIG.98B

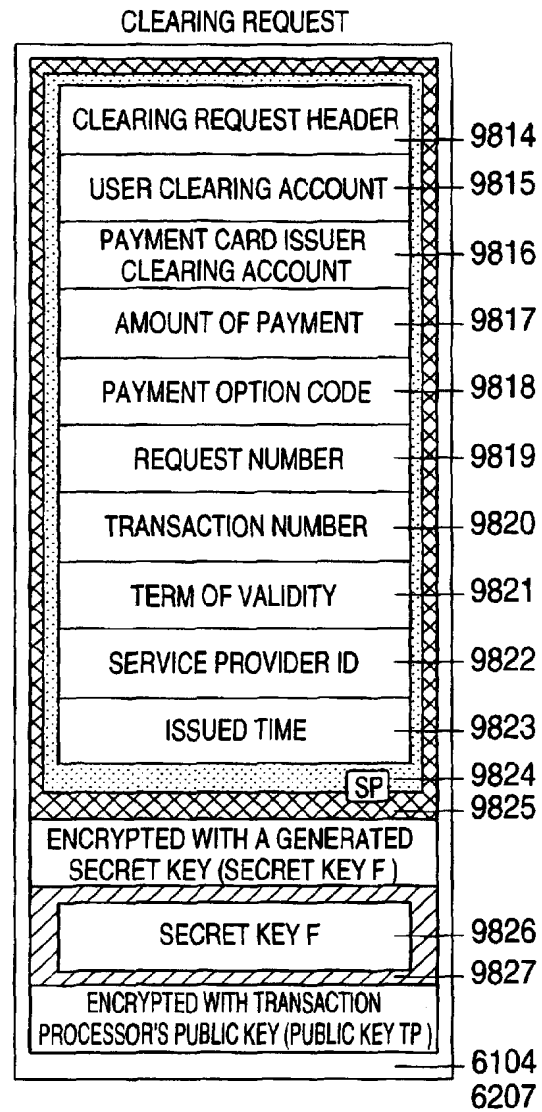


FIG.99A

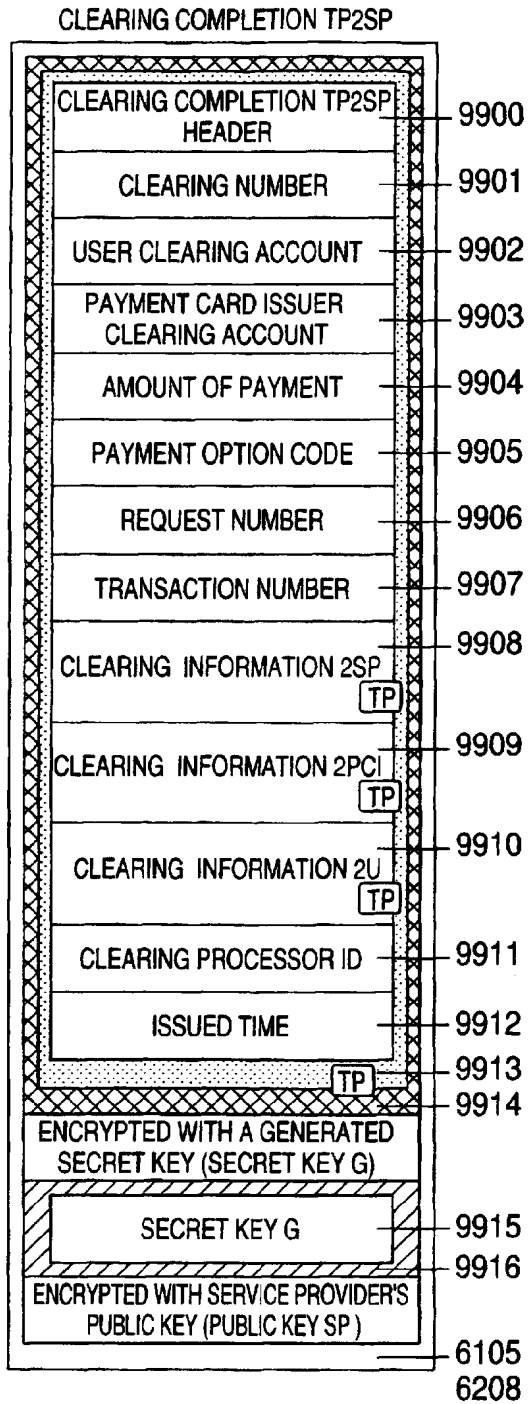


FIG.99B

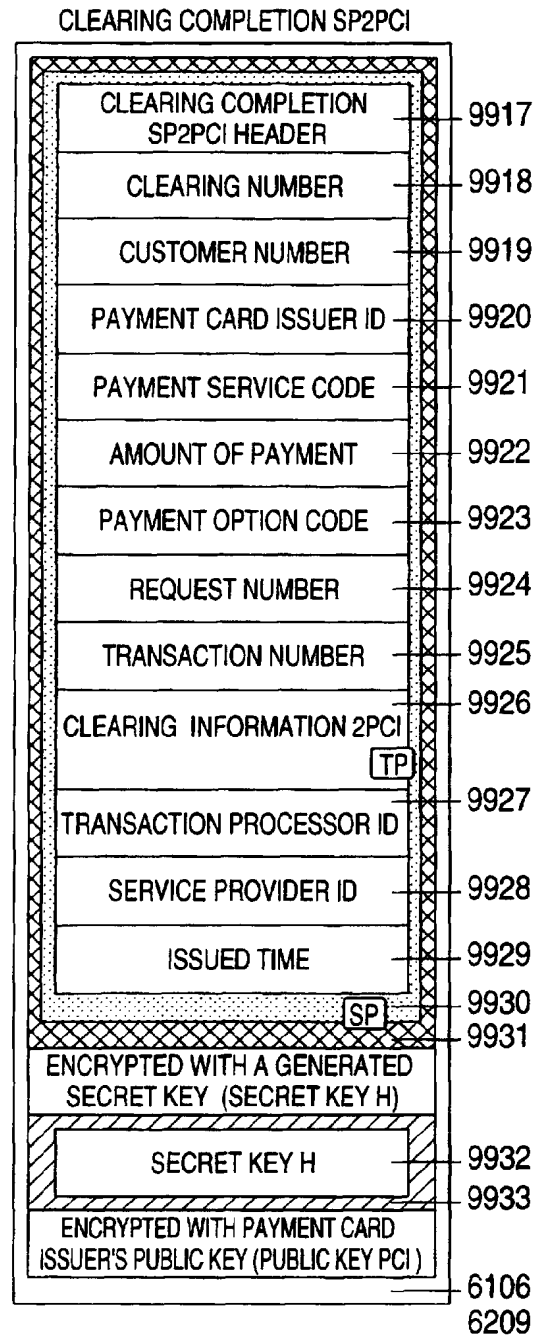


FIG. 100A

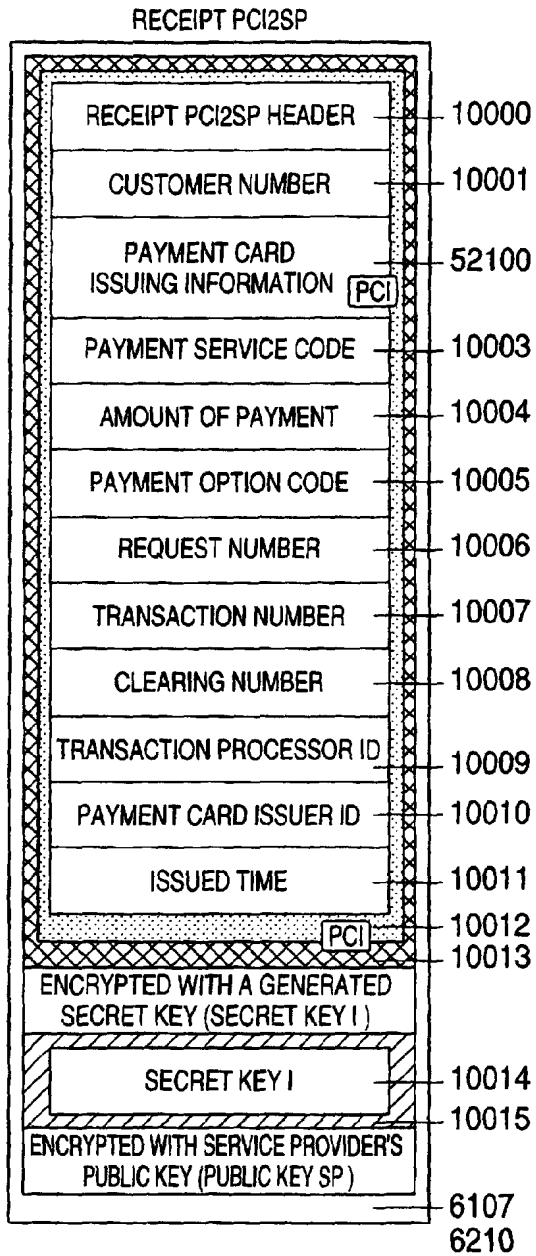


FIG. 100B

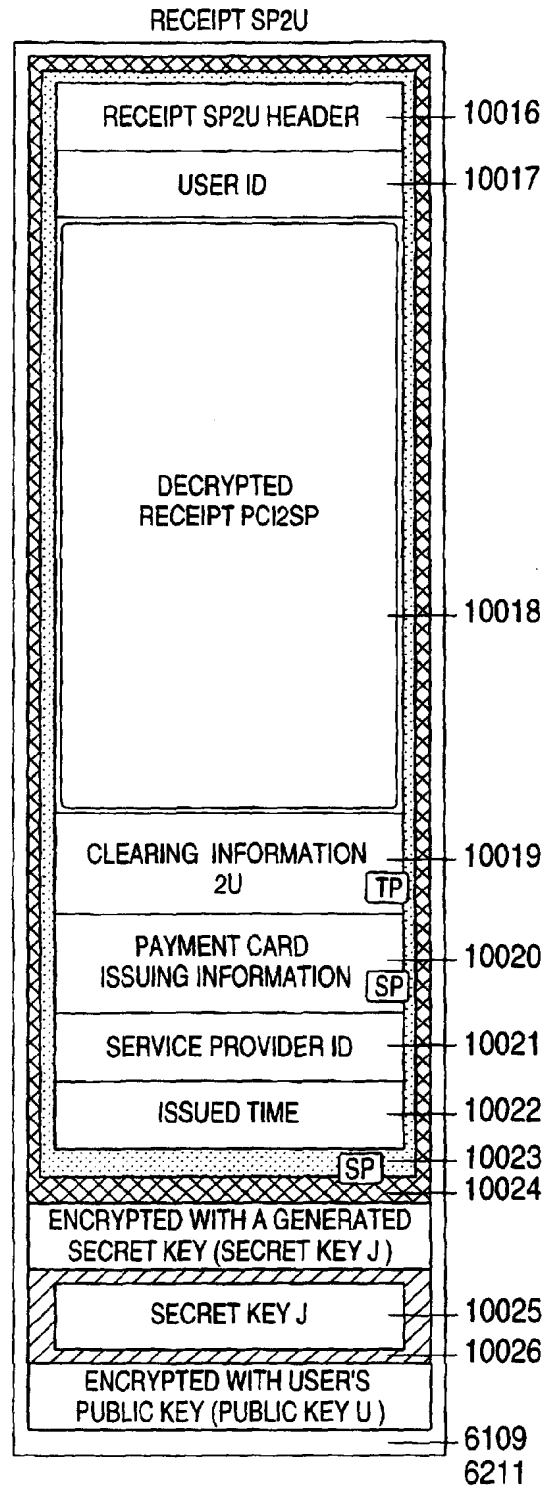


FIG.101A

TELEPHONE CARD PURCHASE ORDER U2SP

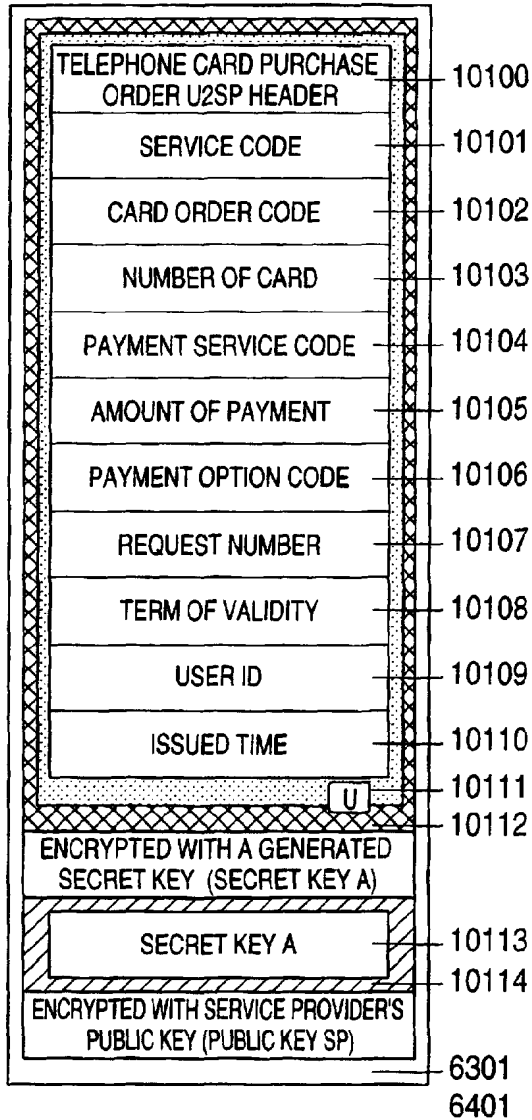


FIG.101B

TELEPHONE CARD PURCHASE ORDER SP2TCI

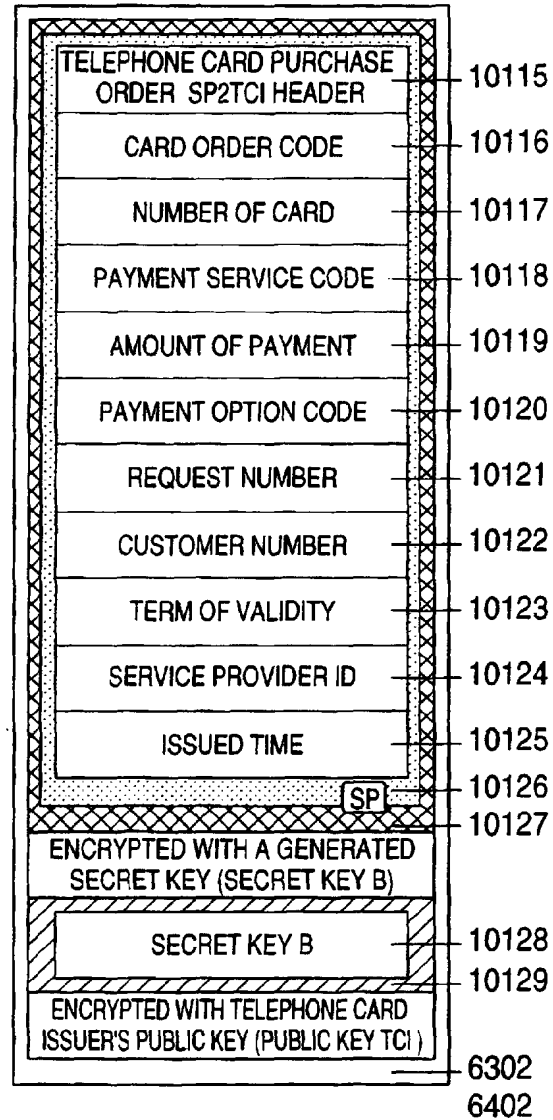
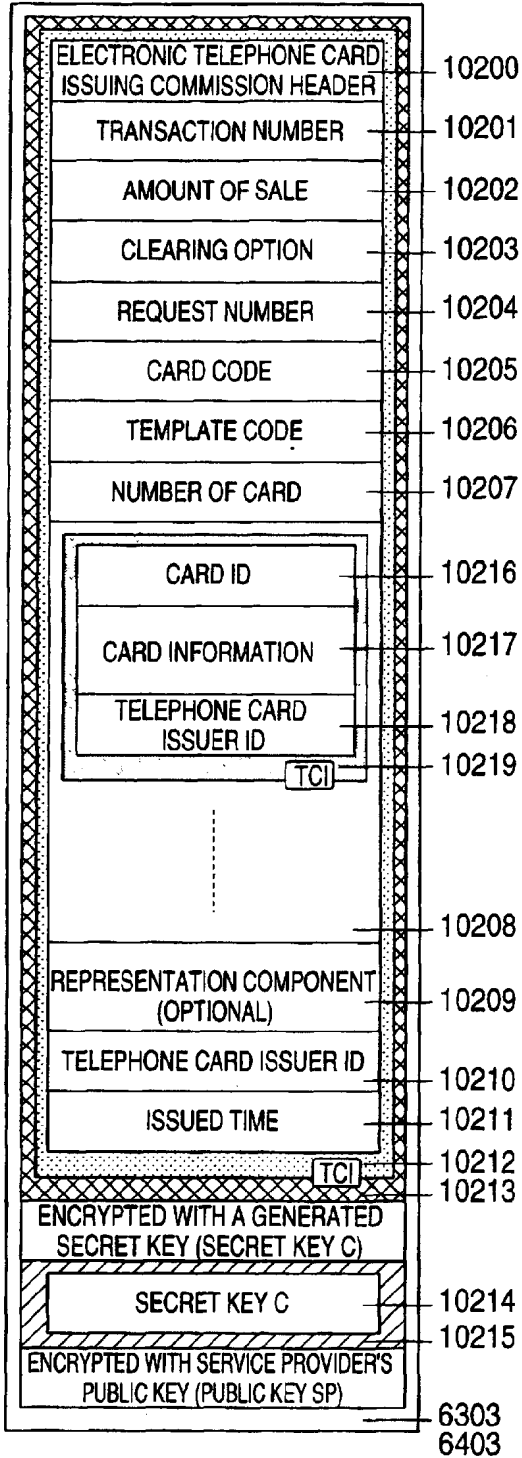


FIG.102AELECTRONIC TELEPHONE CARD
ISSUING COMMISSION**FIG.102B**

ELECTRONIC TELEPHONE CARD ISSUING

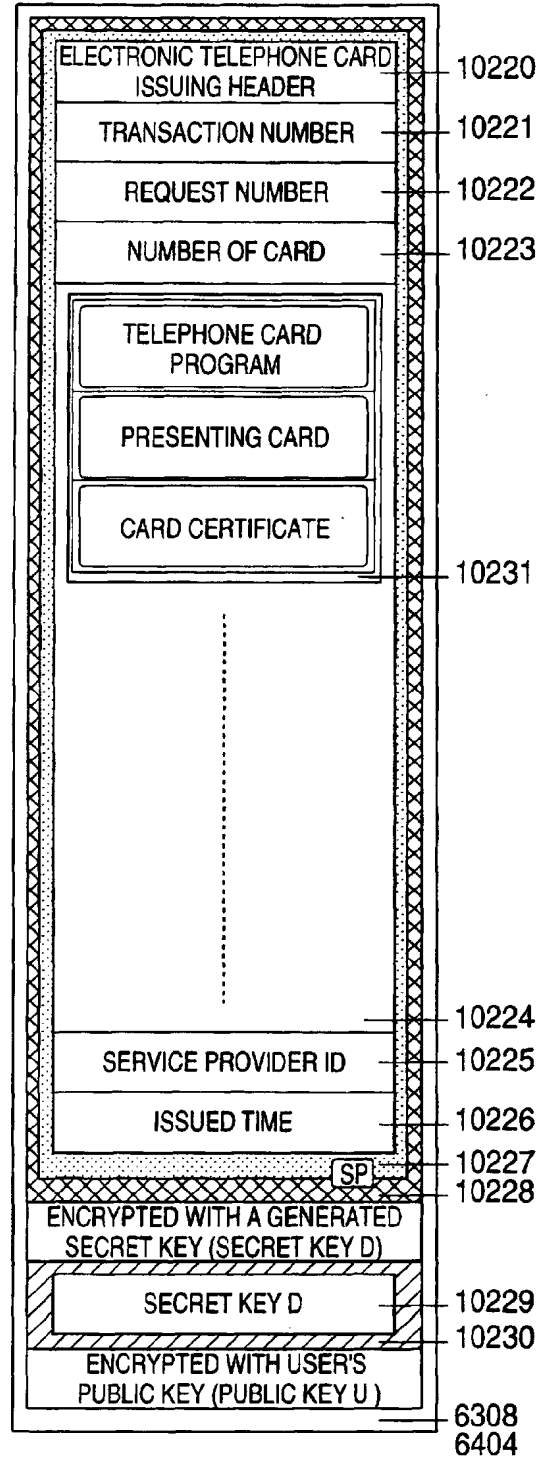


FIG.103A

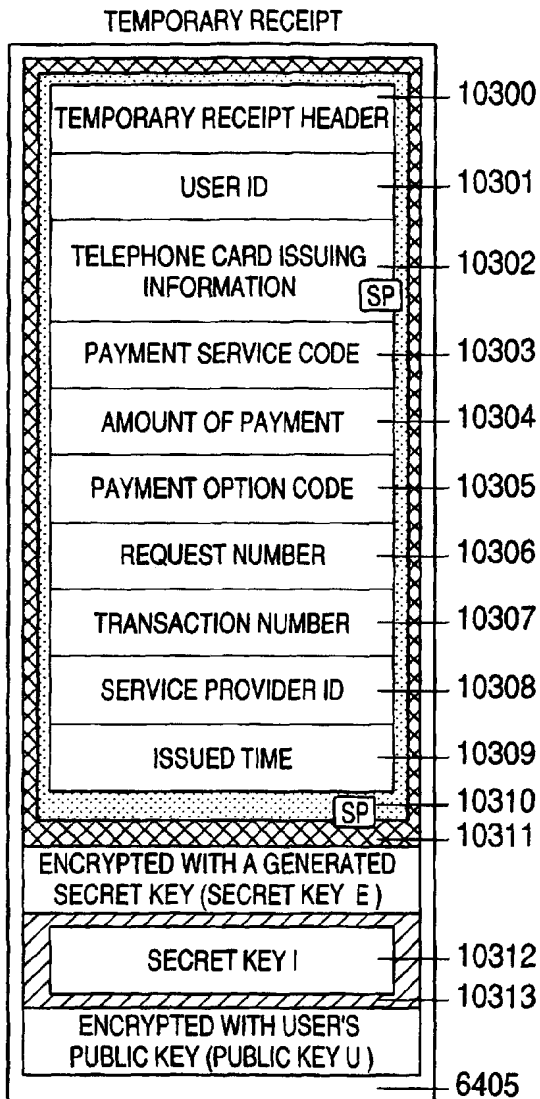


FIG.103B

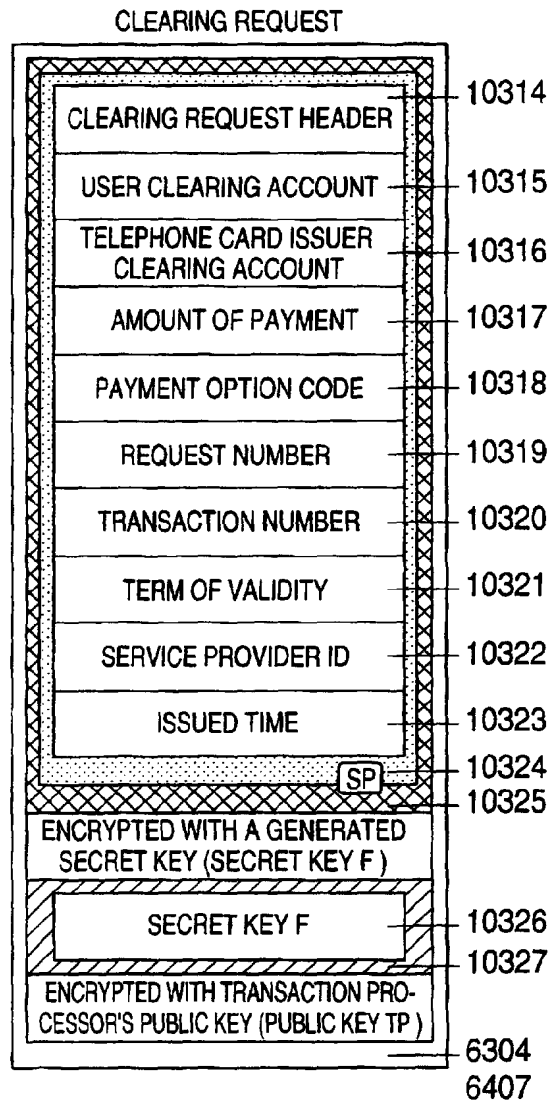


FIG.104A

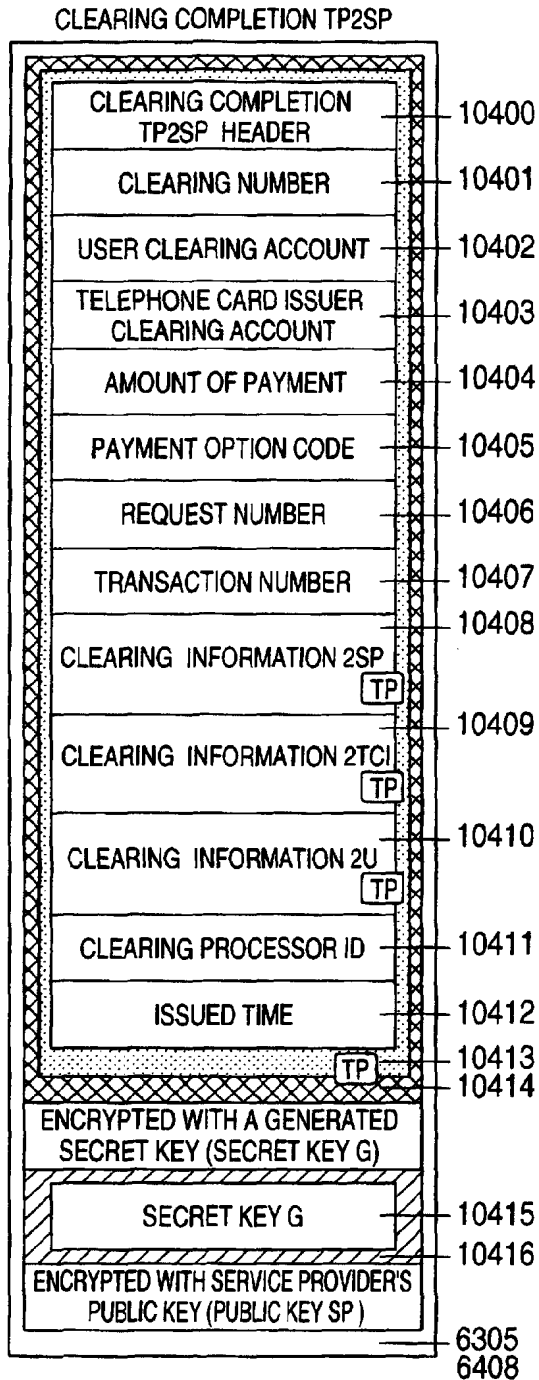


FIG.104B

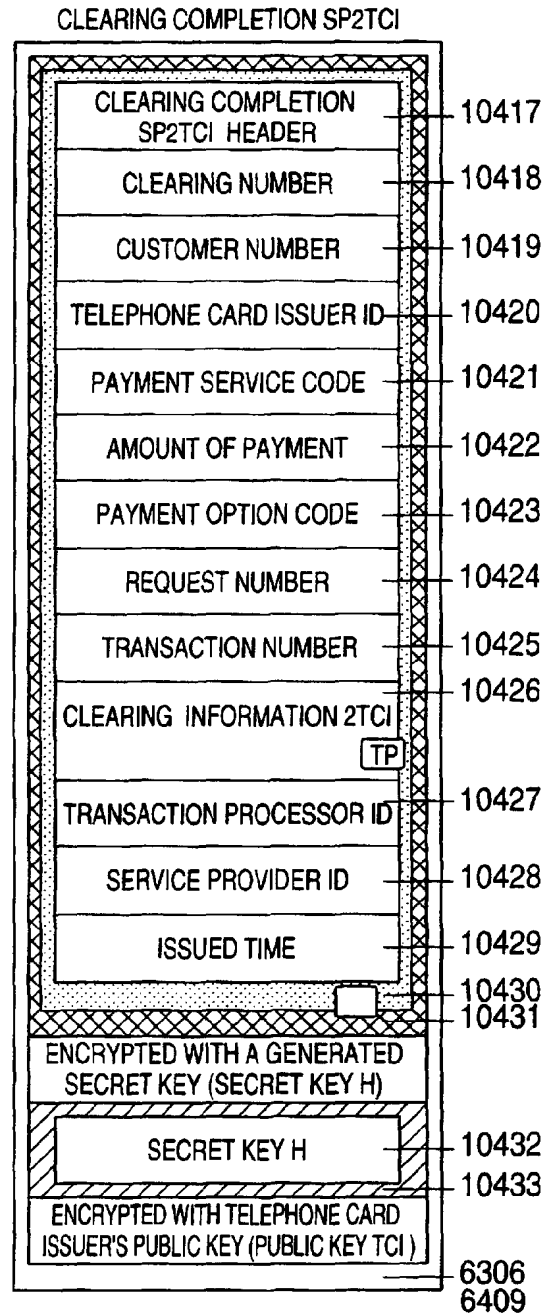


FIG.105A

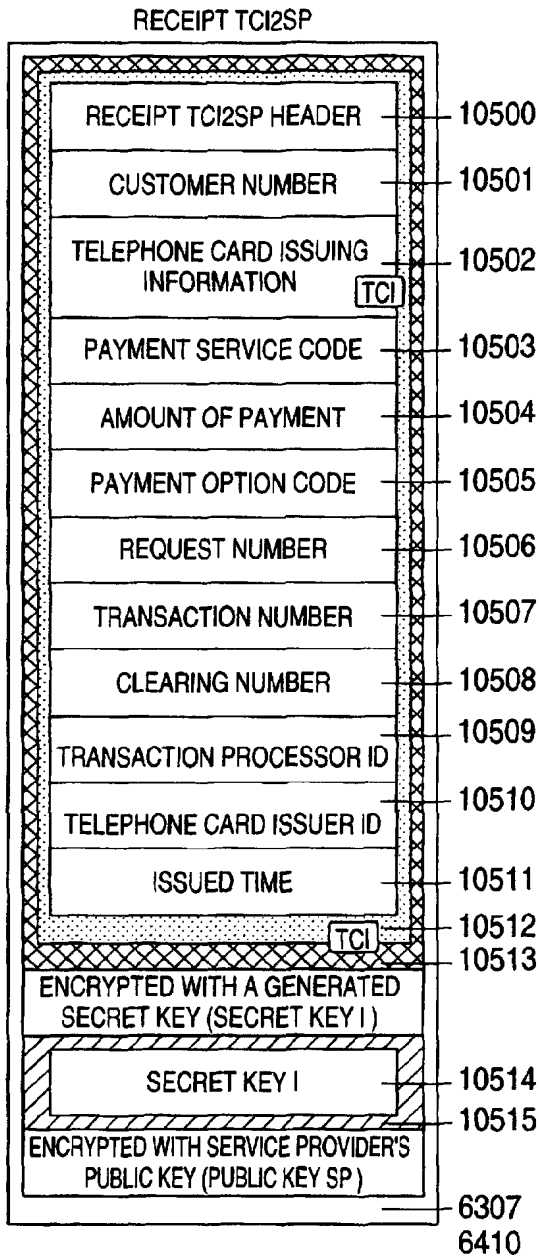


FIG.105B

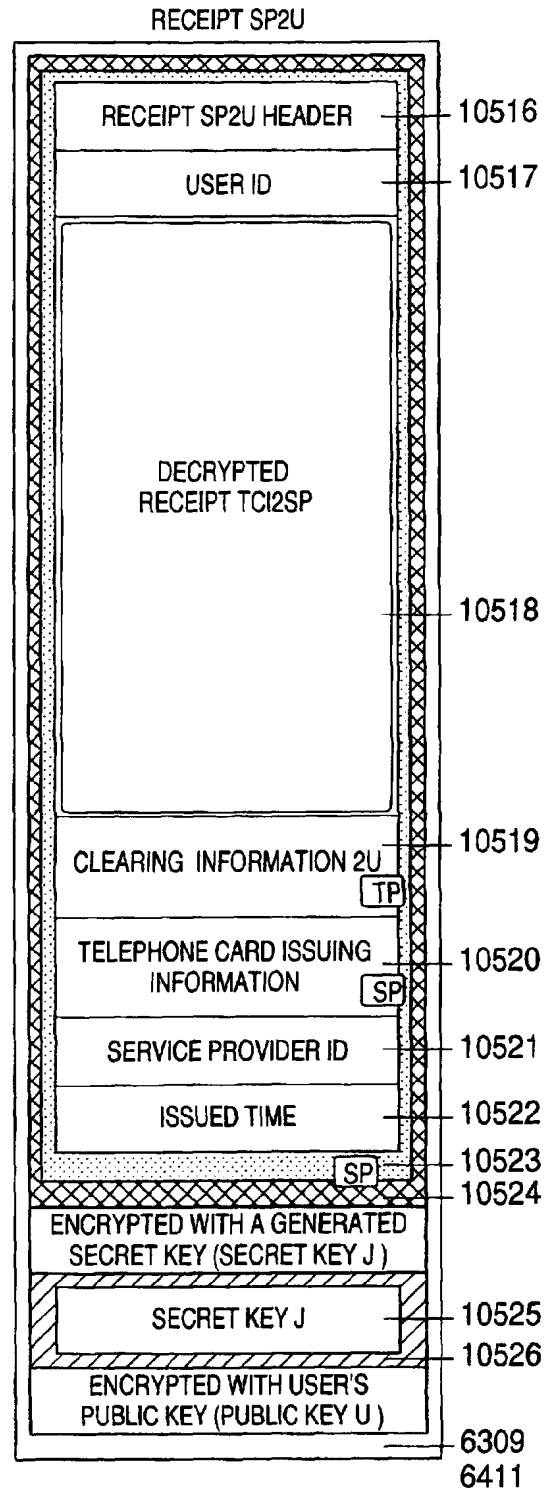


FIG.106A

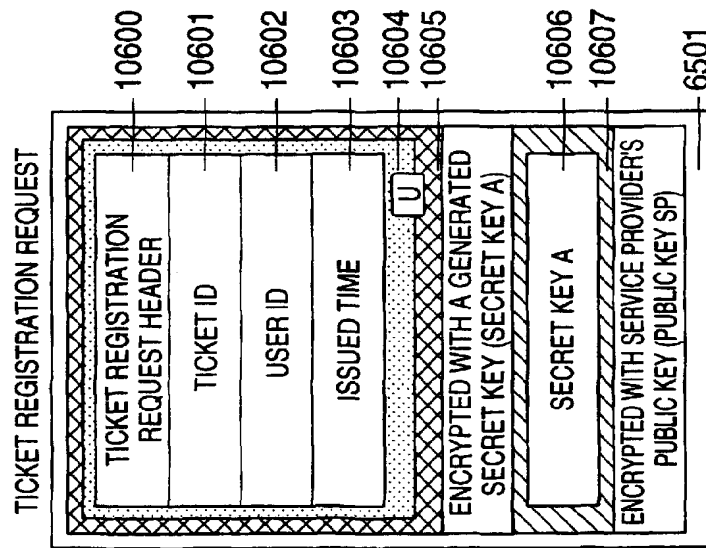


FIG.106B

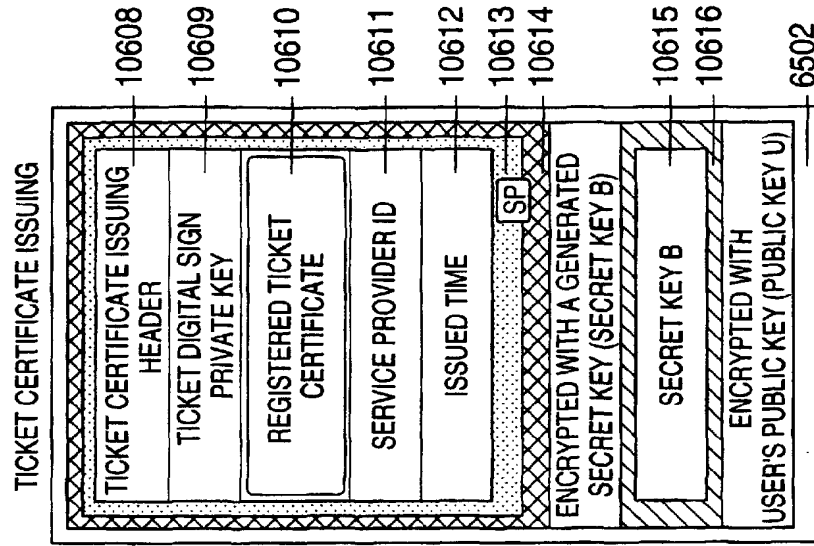


FIG.107A

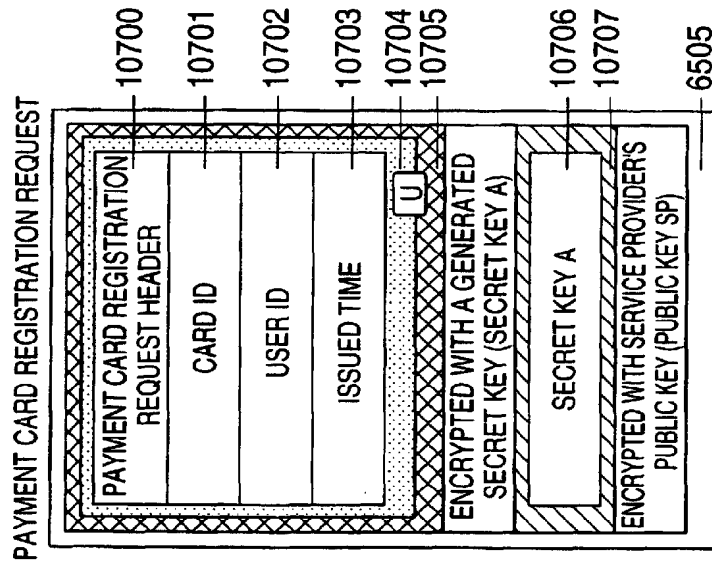


FIG.107B

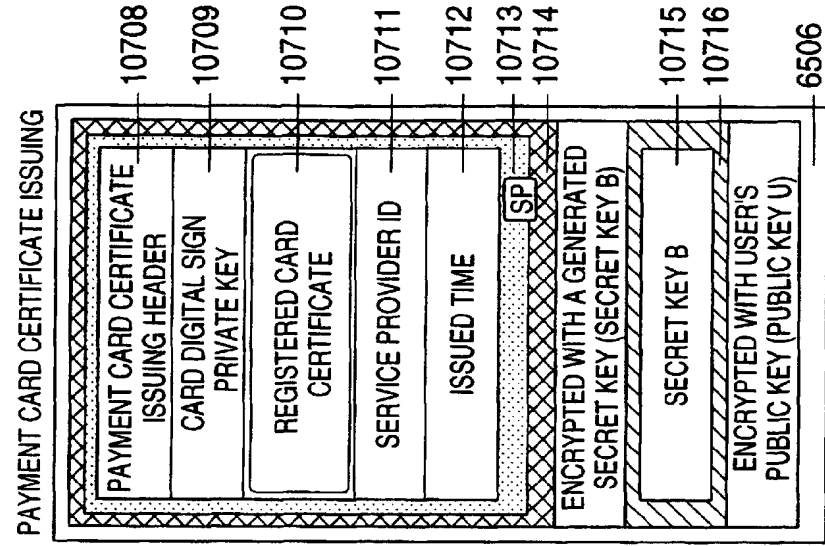


FIG.108A

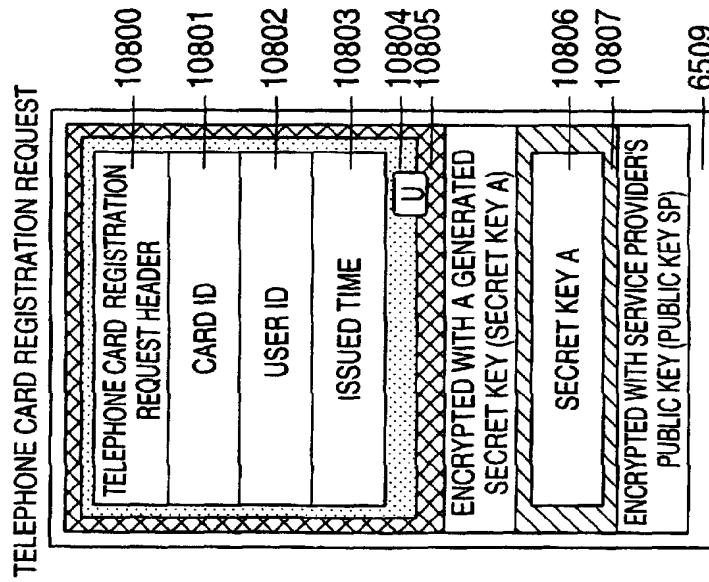


FIG.108B

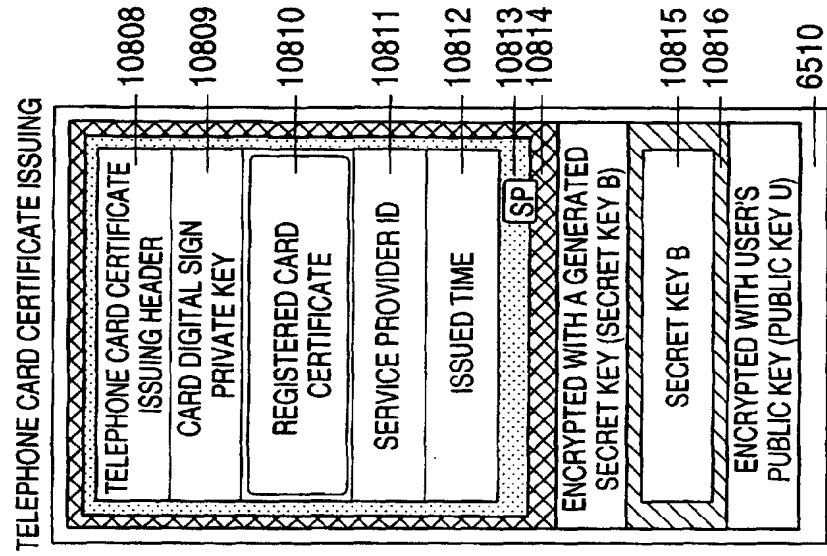


FIG.109A

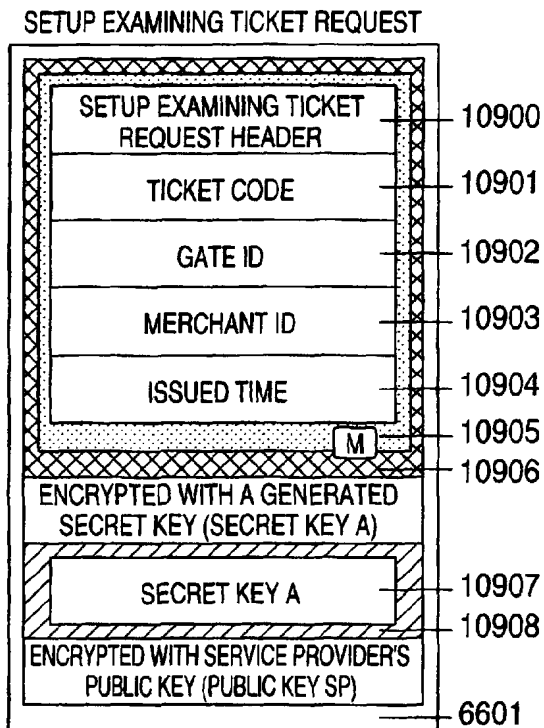


FIG.109B

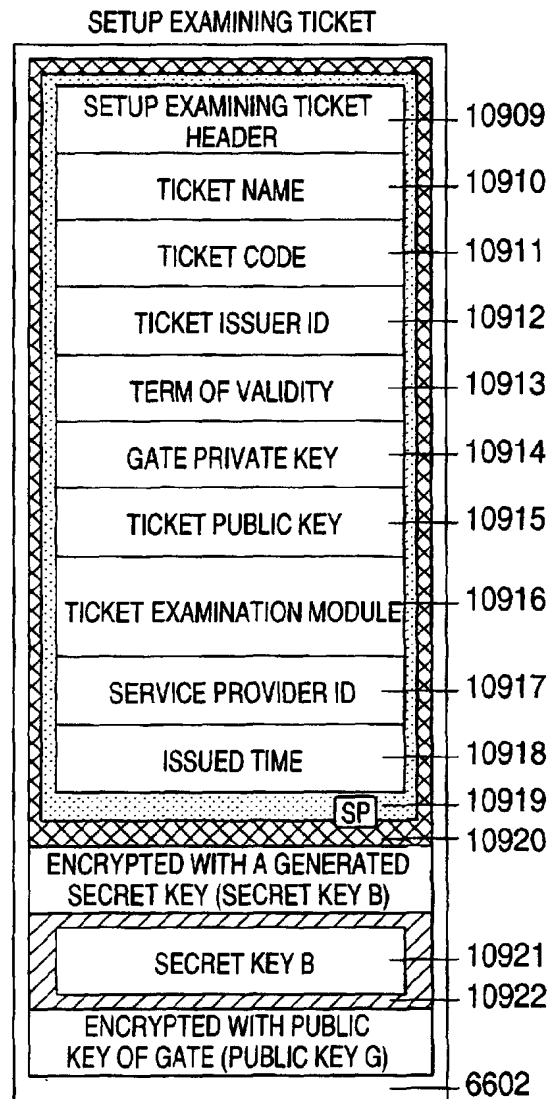


FIG.110A

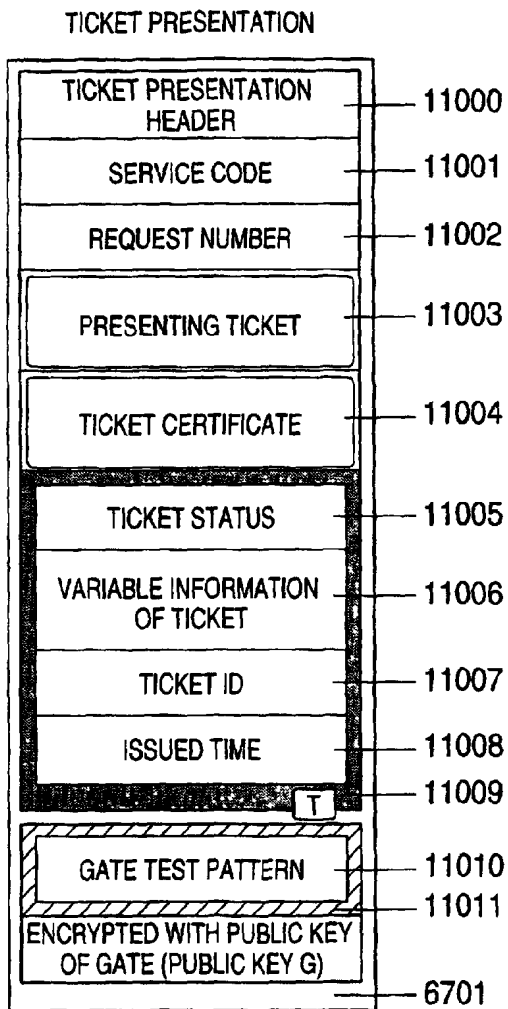


FIG.110B

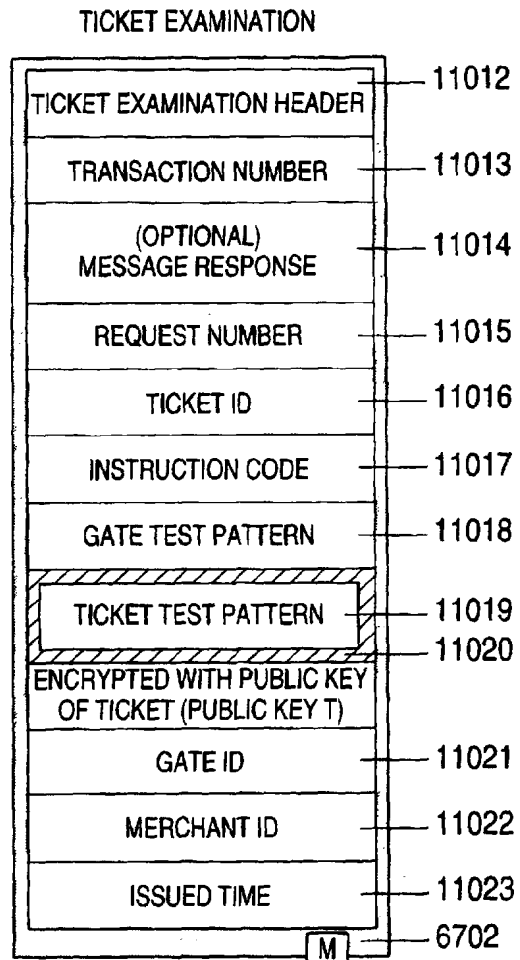


FIG.1111A

TICKET EXAMINATION RESPONSE

TICKET EXAMINATION RESPONSE HEADER	11100
TICKET EXAMINATION NUMBER	11101
TICKET TEST PATTERN	11102
TICKET STATUS	11103
VARIABLE INFORMATION OF TICKET	11104
GATE ID	11105
MERCHANT ID	11106
REQUEST NUMBER	11107
TRANSACTION NUMBER	11108
TICKET CODE	11109
TICKET ID	11110
ISSUED TIME	11111
T	11112
U	6703

FIG.1111B

EXAMINATION CERTIFICATE

EXAMINATION CERTIFICATE HEADER	11113
INFORMATION OF EXAMINATION	11114
TICKET ID	11115
REQUEST NUMBER	11116
TRANSACTION NUMBER	11117
TICKET EXAMINATION NUMBER	11118
GATE ID	11119
MERCHANT ID	11120
ISSUED TIME	11121
M	6704

FIG.112A

PAYMENT OFFER

PAYMENT OFFER HEADER	11200
SERVICE CODE	11201
REQUEST NUMBER	11202
AMOUNT OF PAYMENT	11203
PRESENTING CARD	11204
CARD CERTIFICATE	11205
CARD STATUS	11206
AMOUNT OF STORED VALUE	11207
CARD ID	11208
ISSUED TIME	11209
C	11210
ACCOUNTING MACHINE TEST PATTERN	11211
ENCRYPTED WITH PUBLIC KEY OF ACCOUNTING MACHINE (PUBLIC KEY AM)	11212
	6805
	6907

FIG.112B

PAYMENT OFFER RESPONSE

PAYMENT OFFER RESPONSE HEADER	11213
TRANSACTION NUMBER	11214
(OPTIONAL) MESSAGE RESPONSE	11215
REQUEST NUMBER	11216
CARD ID	11217
INSTRUCTION CODE	11218
AMOUNT OF SALE	11219
ACCOUNTING MACHINE TEST PATTERN	11220
CARD TEST PATTERN	11221
ENCRYPTED WITH PUBLIC KEY OF PAYMENT CARD (PUBLIC KEY C)	11222
ACCOUNTING MACHINE ID	11223
MERCHANT ID	11224
ISSUED TIME	11225
M	6806
	6908

FIG.113A

MICRO CHECK

MICRO CHECK HEADER	11300
MICRO CHECK ISSUED NUMBER	11301
CARD TEST PATTERN	11302
AMOUNT OF PAYMENT	11303
CARD STATUS	11304
STORED VALUE	11305
ACCOUNTING MACHINE ID	11306
MERCHANT ID	11307
REQUEST NUMBER	11308
TRANSACTION NUMBER	11309
CARD CODE	11310
CARD ID	11311
ISSUED TIME	11312
	11313
	6807
	6909

FIG.113B

RECEIPT

RECEIPT HEADER	11314
SALES INFORMATION	11315
CARD ID	11316
AMOUNT OF RECEIPT	11317
REQUEST NUMBER	11318
TRANSACTION NUMBER	11319
MICRO CHECK ISSUED NUMBER	11320
ACCOUNTING MACHINE ID	11321
MERCHANT ID	11322
ISSUED TIME	11323
	6808
	6910

FIG. 114A

MICRO CHECK CALL REQUEST

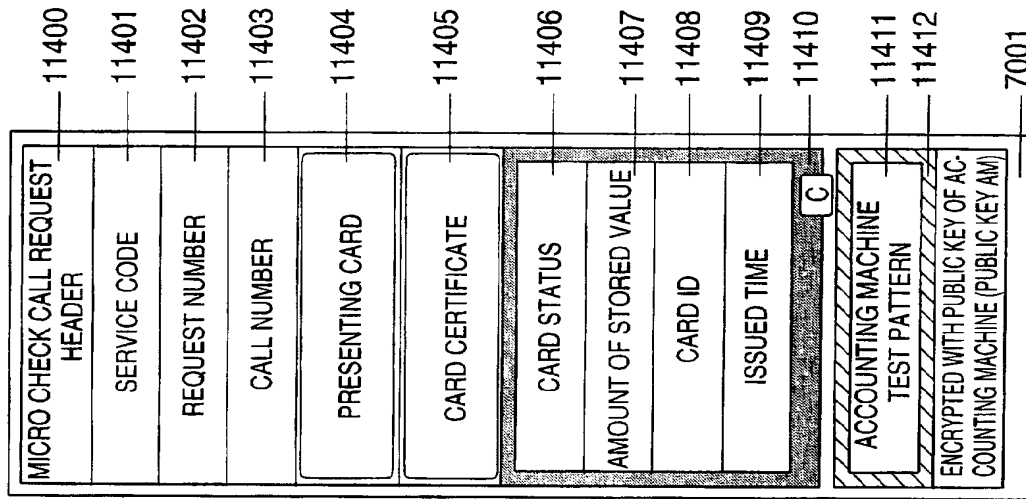


FIG. 114B

MICRO CHECK CALL RESPONSE

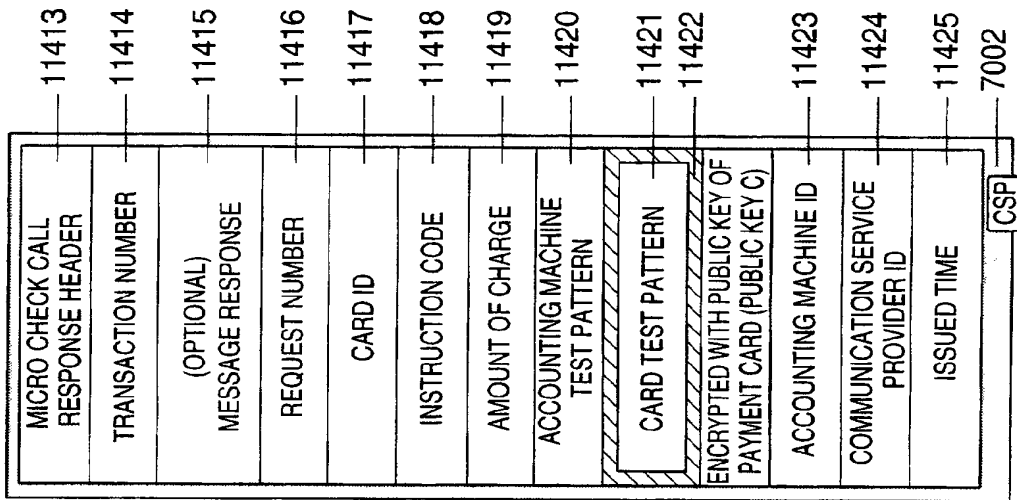


FIG.115A

TELEPHONE MICRO CHECK

TELEPHONE MICRO CHECK HEADER	11500
MICRO CHECK ISSUED NUMBER	11501
CARD TEST PATTERN	11502
AMOUNT OF PAYMENT	11503
CARD STATUS	11504
STORED VALUE	11505
ACCOUNTING MACHINE ID	11506
COMMUNICATION SERVICE PROVIDER ID	11507
REQUEST NUMBER	11508
TRANSACTION NUMBER	11509
CARD CODE	11510
CARD ID	11511
ISSUED TIME	11512
C	11513
U	7003
	7012
	7016

FIG.115B

Receipt

RECEIPT HEADER	11514
PROVIDING SERVICE INFORMATION	11515
CARD ID	11516
AMOUNT OF RECEIPT	11517
REQUEST NUMBER	11518
TRANSACTION NUMBER	11519
MICRO CHECK ISSUED NUMBER	11520
ACCOUNTING MACHINE ID	11521
COMMUNICATION SERVICE PROVIDER ID	11522
ISSUED TIME	11523
CSP	7009
	7013
	7017

FIG.115C

COMMUNICATION CHARGE

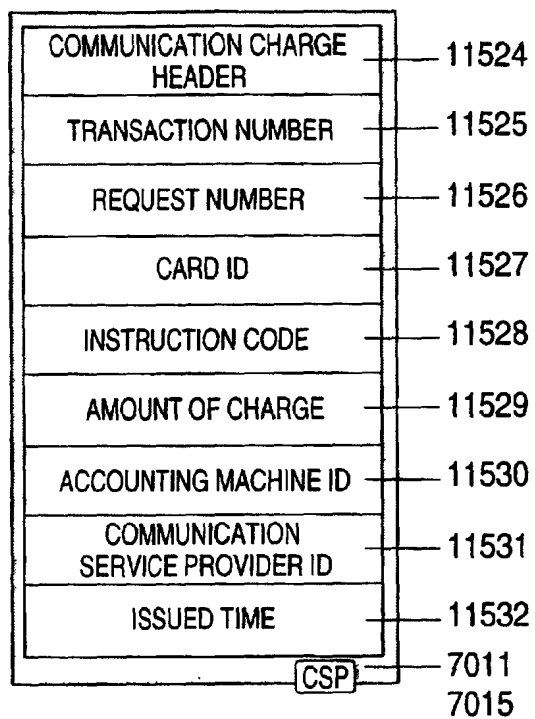


FIG.116A

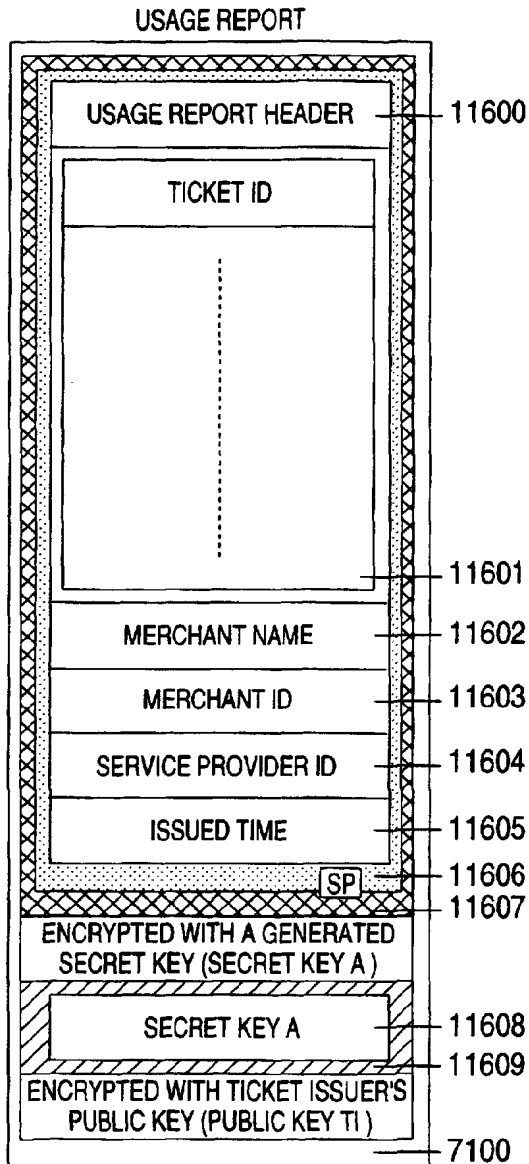


FIG.116B

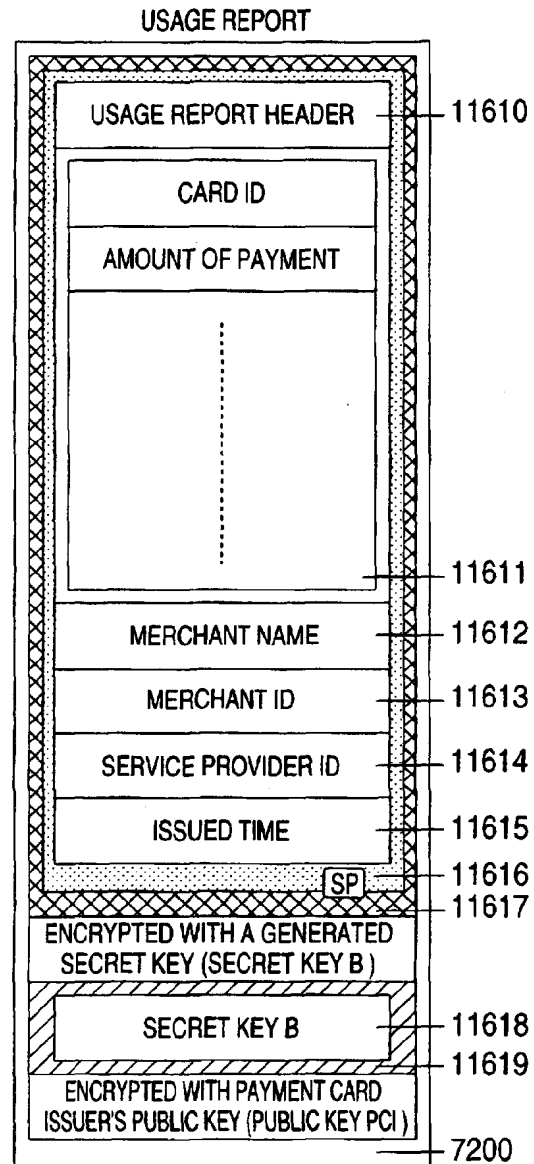


FIG.116C

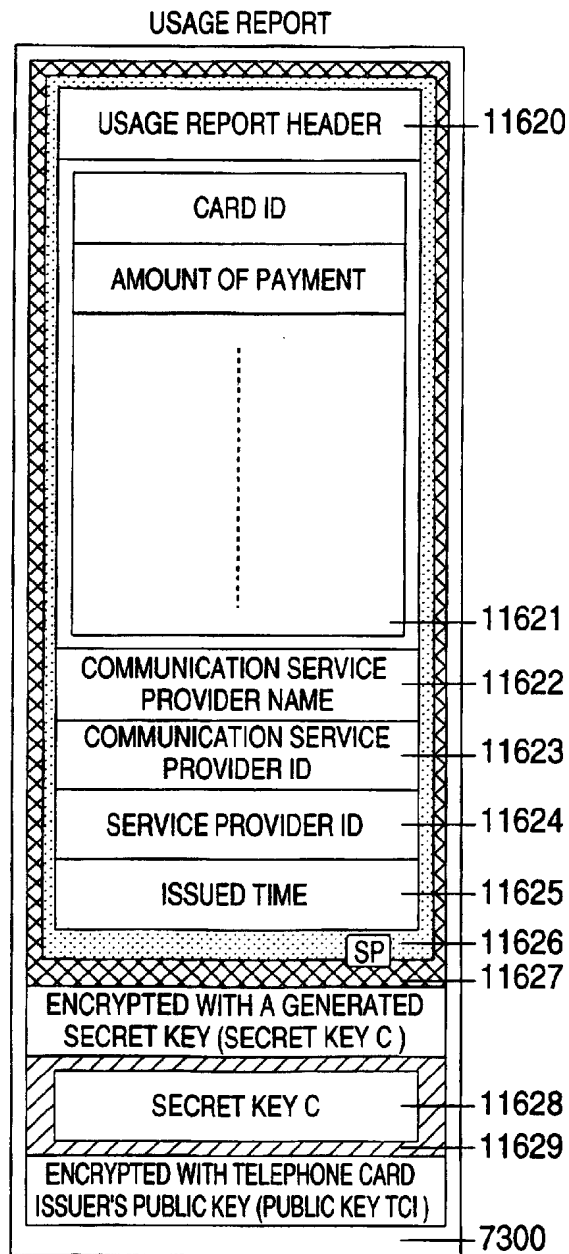


FIG.117A

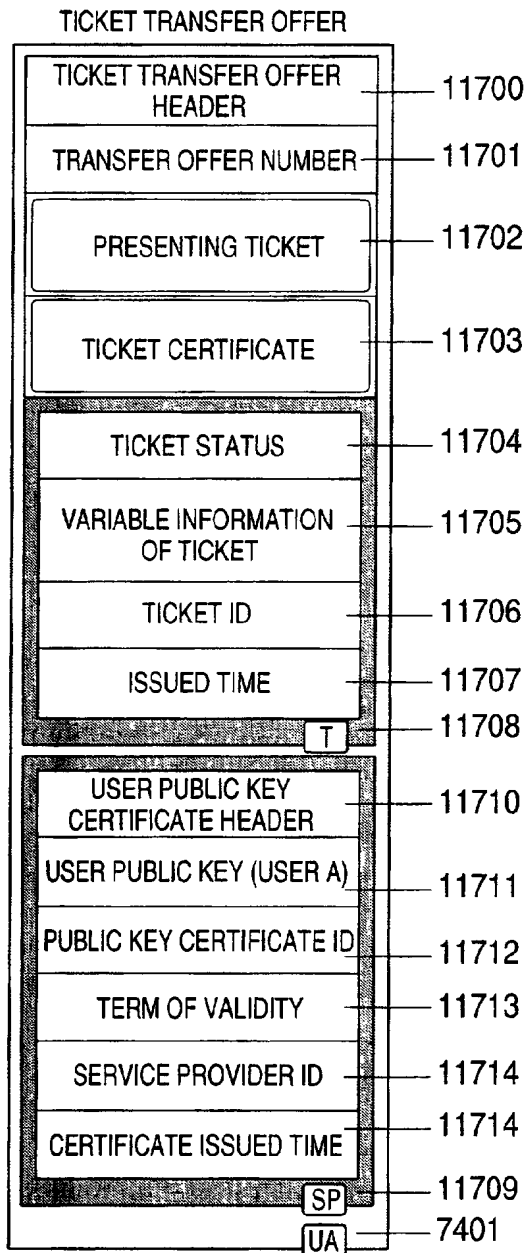


FIG.117B

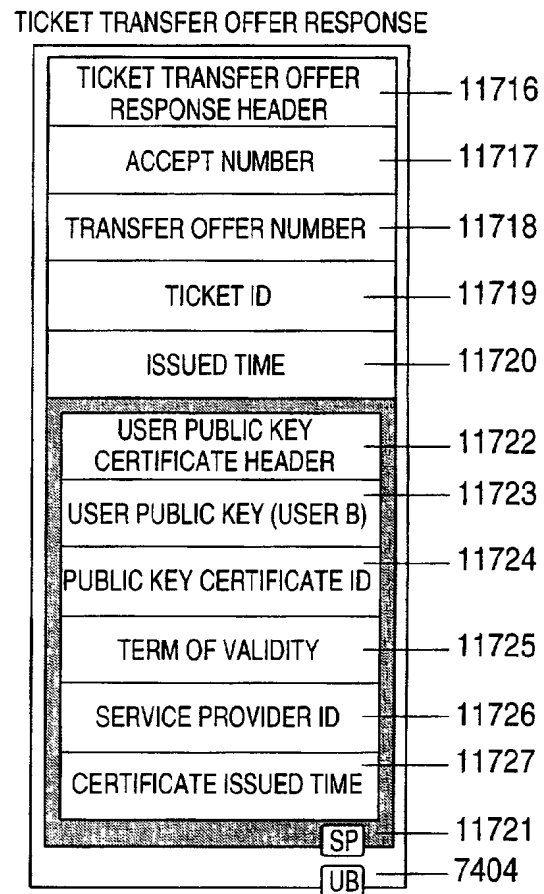


FIG.118A

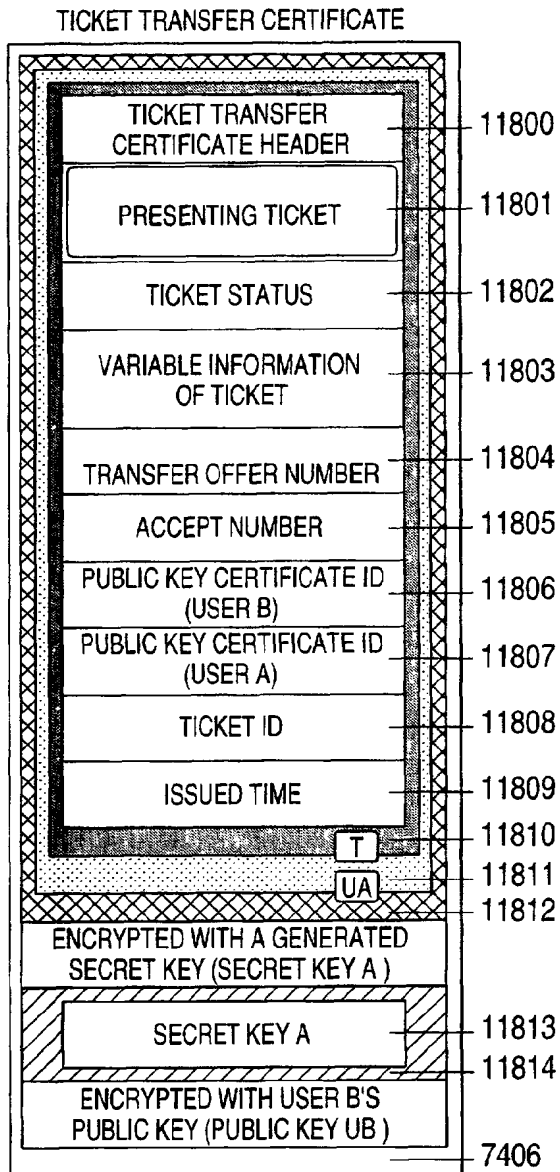


FIG.118B

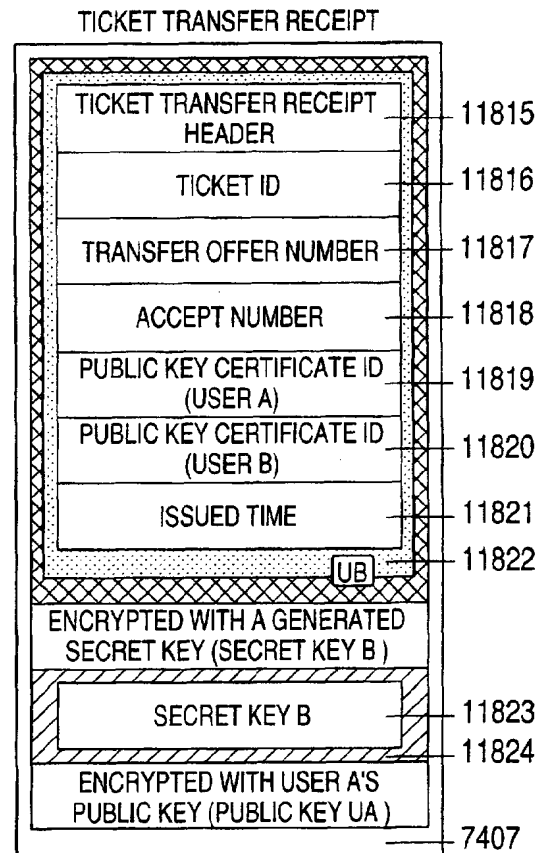


FIG.119A

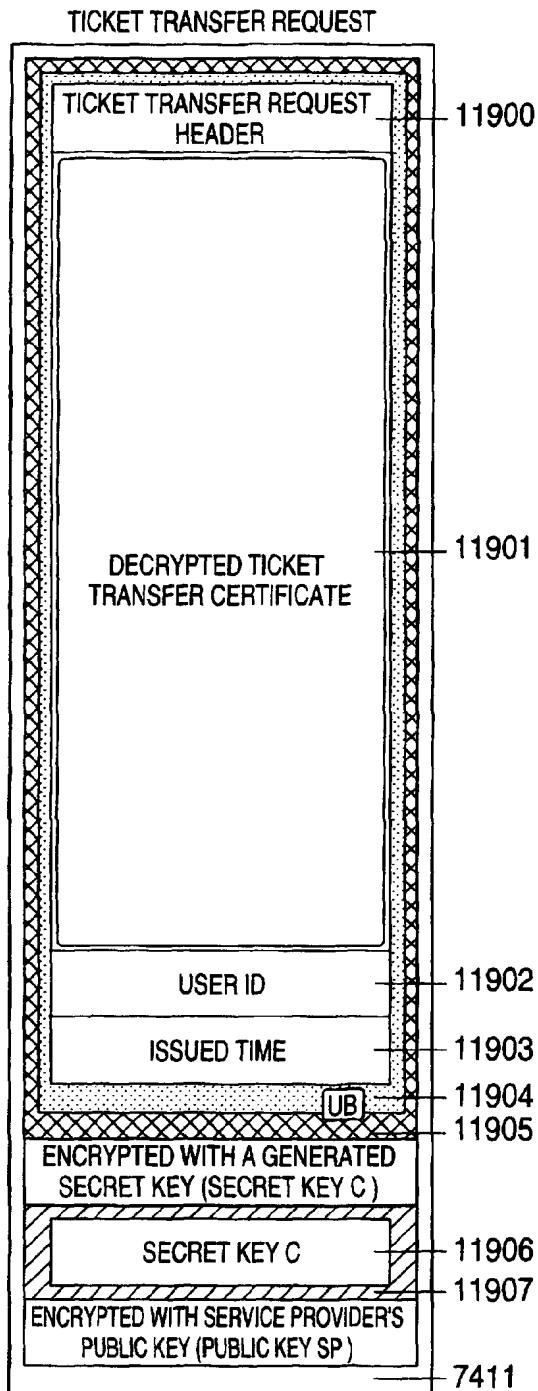


FIG.119B

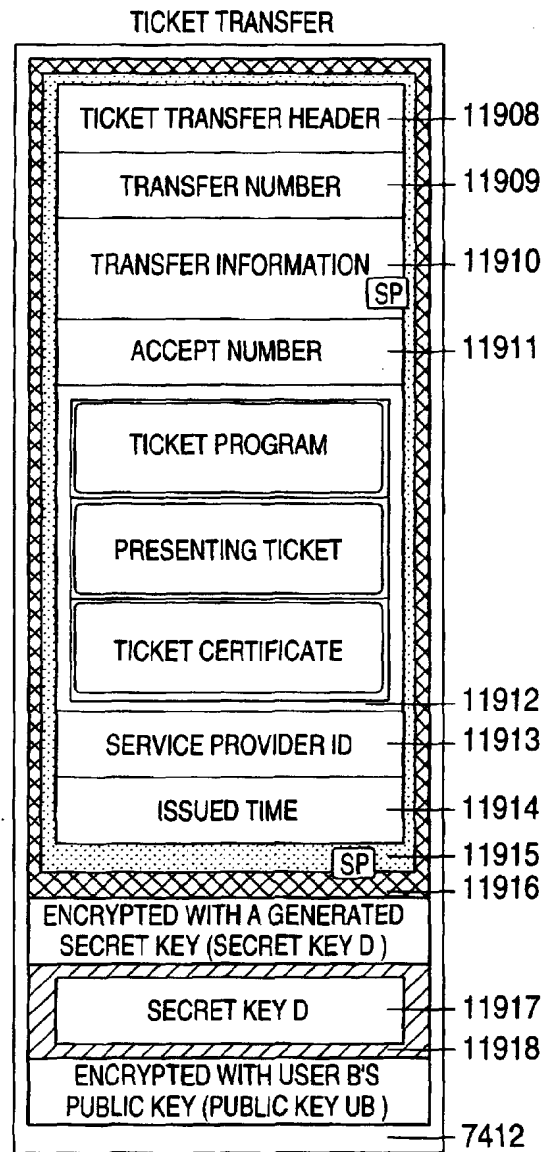


FIG.120A

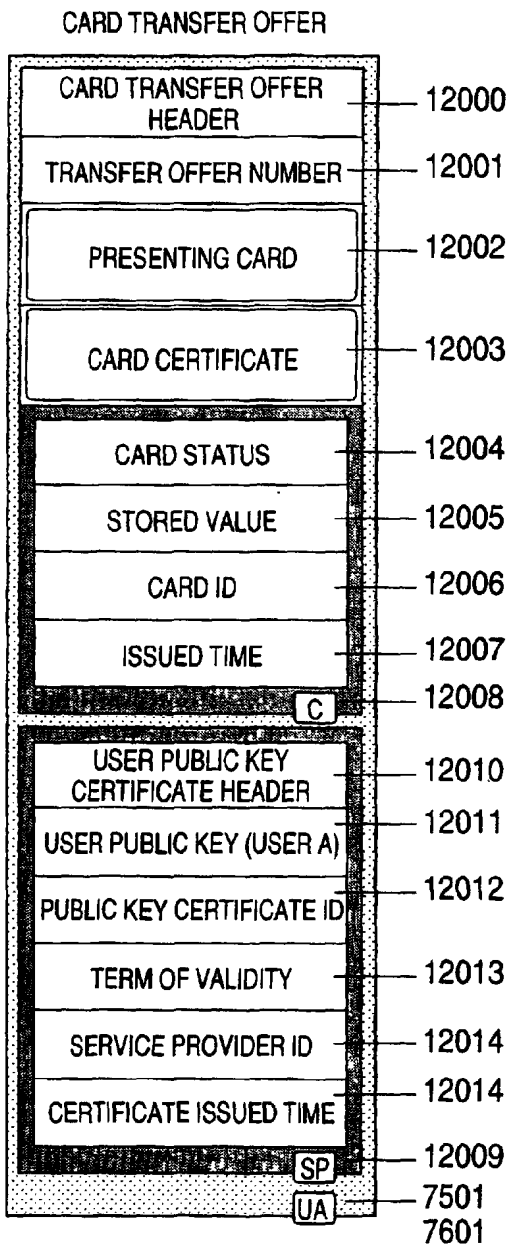


FIG.120B

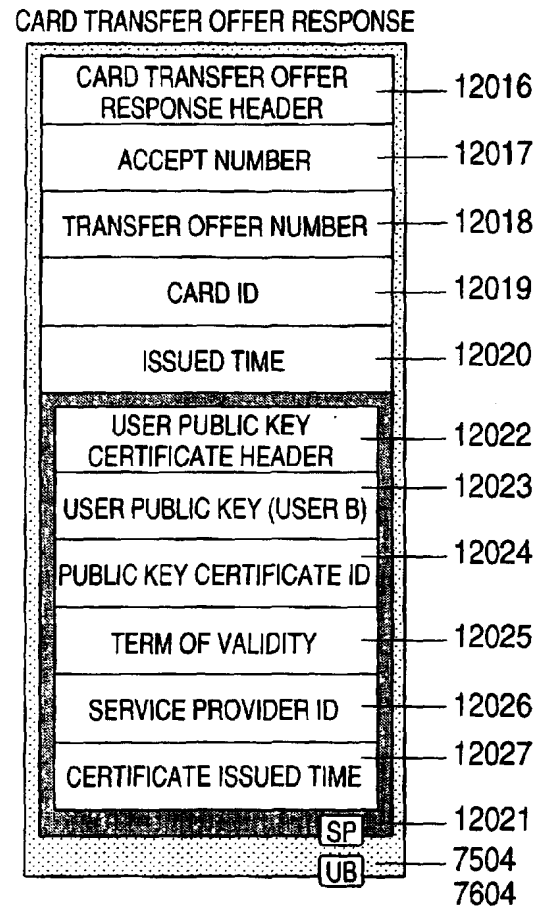


FIG. 121A

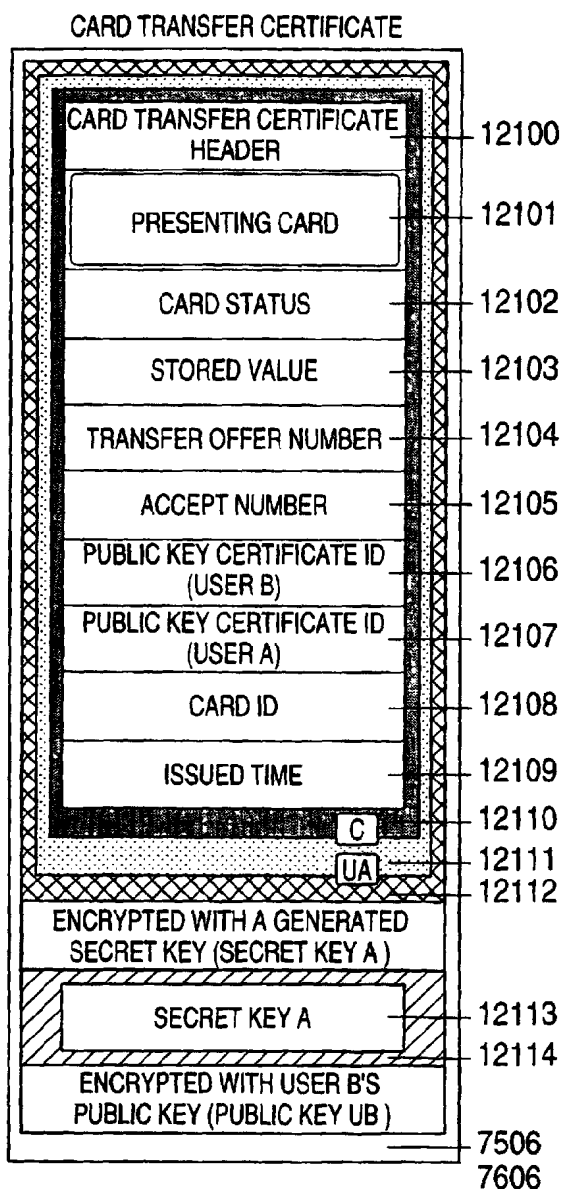


FIG. 121B

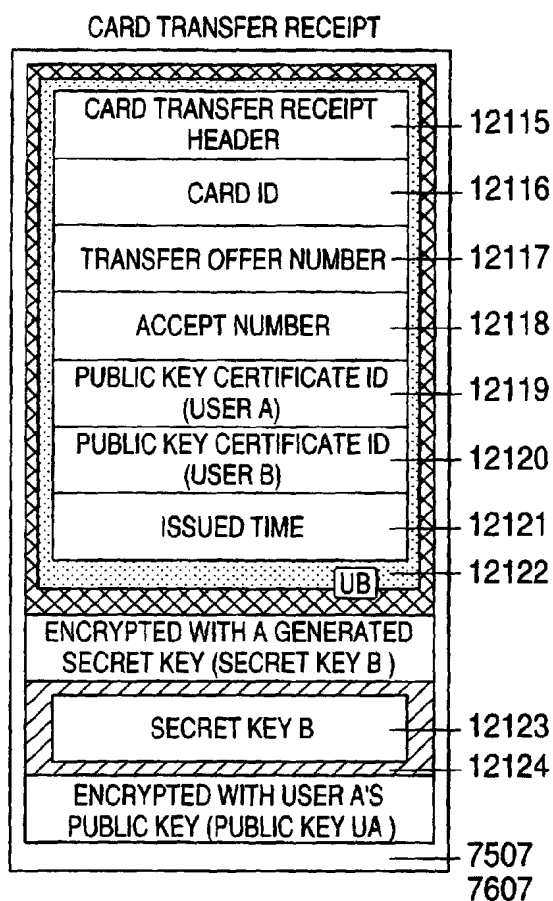


FIG.122A

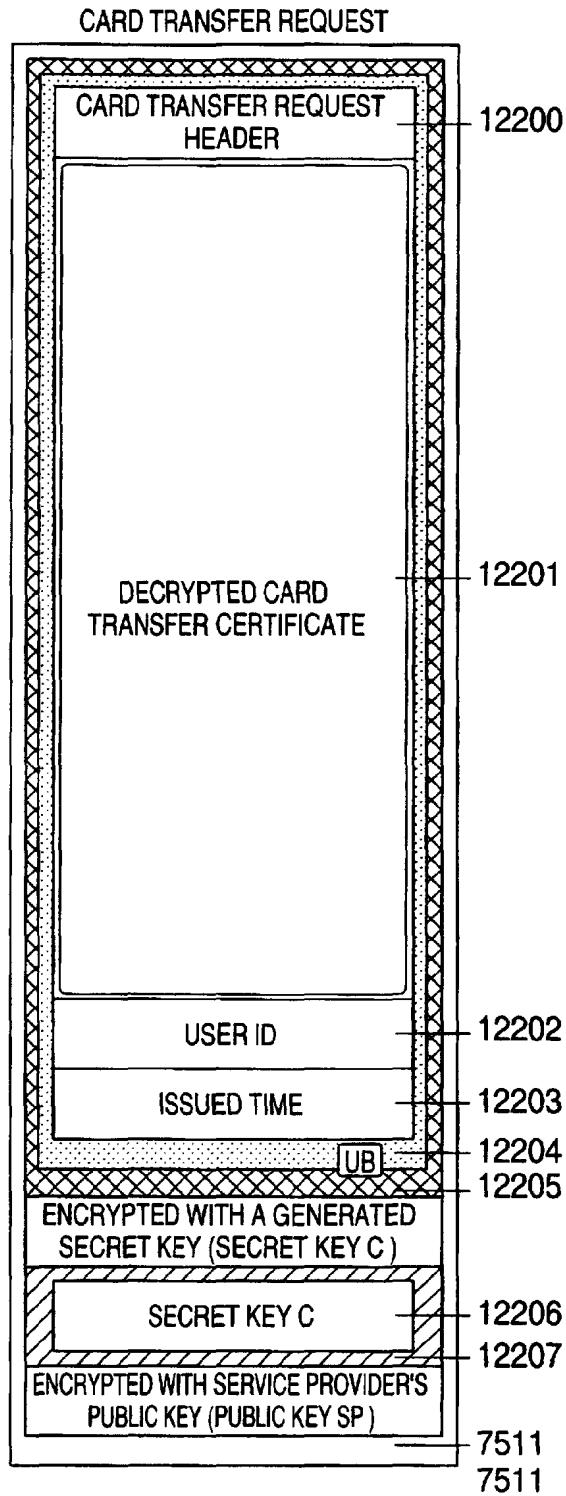


FIG.122B

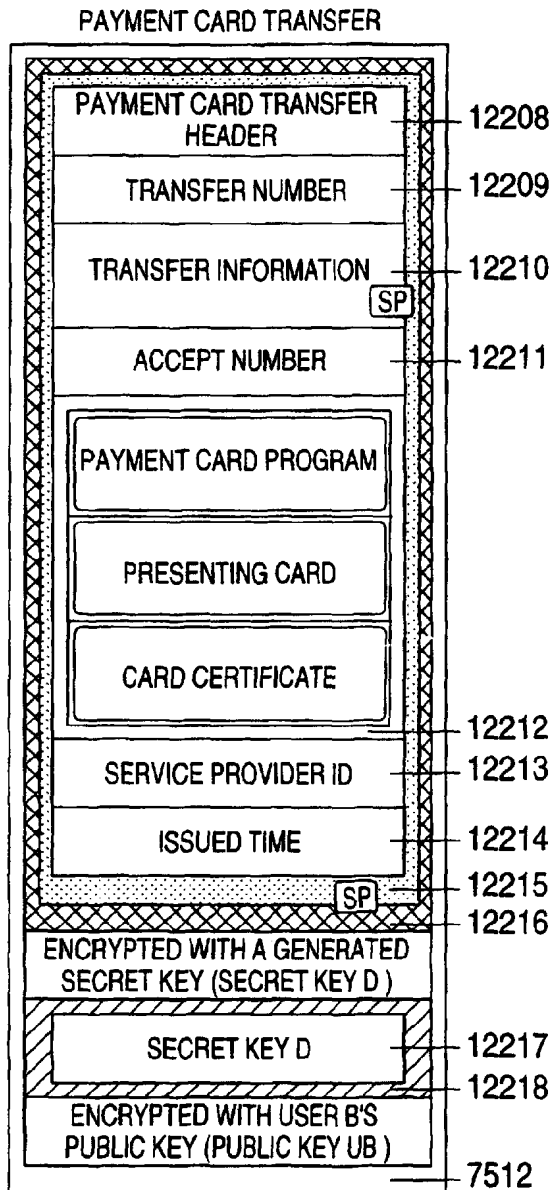


FIG.122C

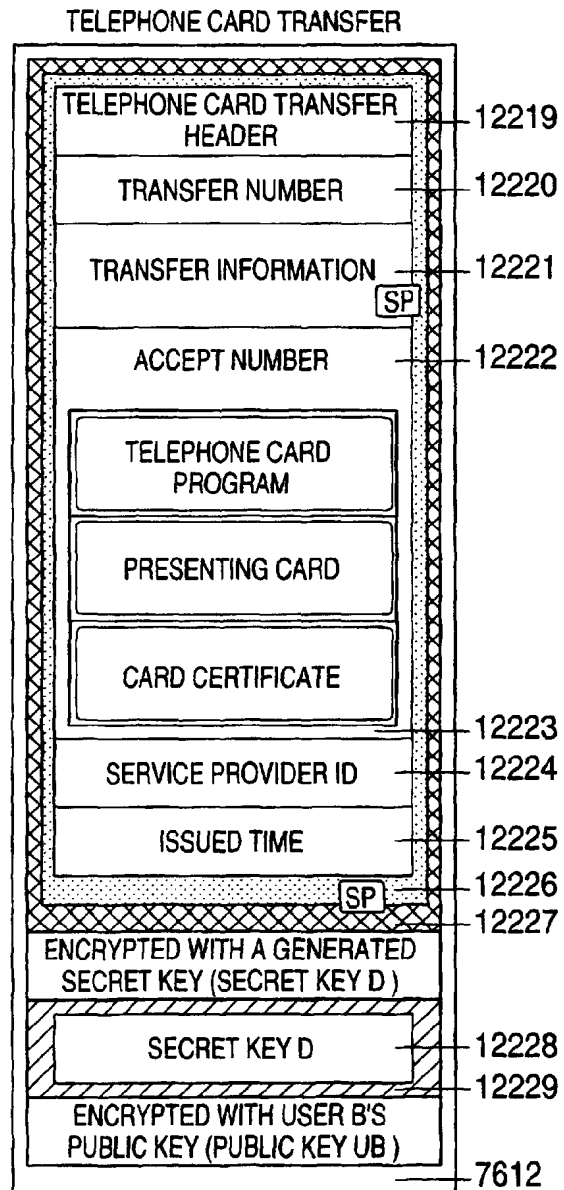


FIG.123A

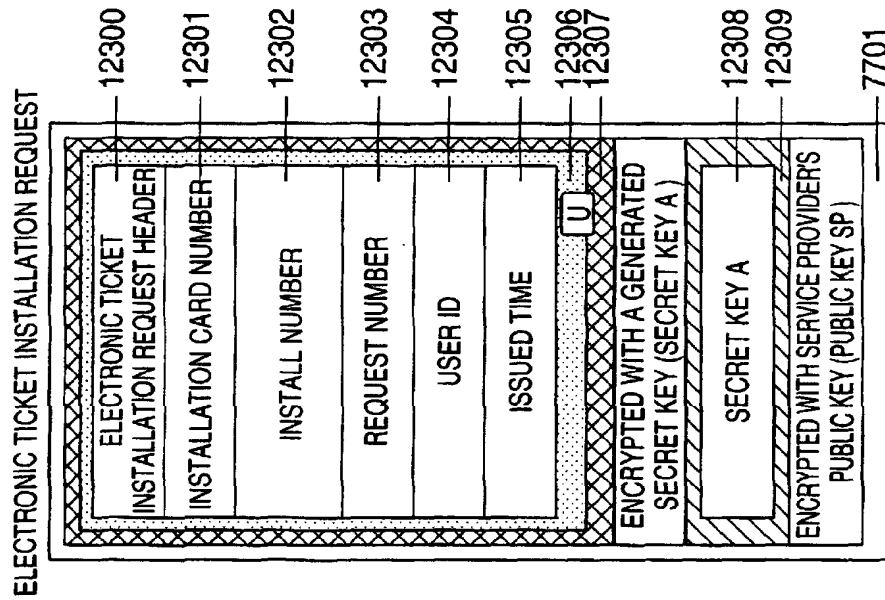


FIG.123B

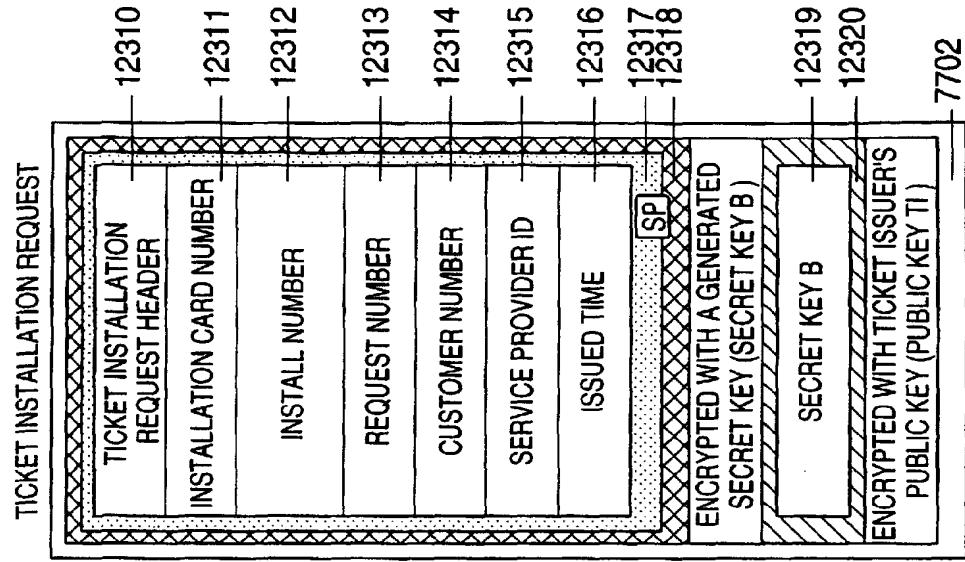


FIG.124A

ELECTRONIC TICKET INSTALL COMMISSION

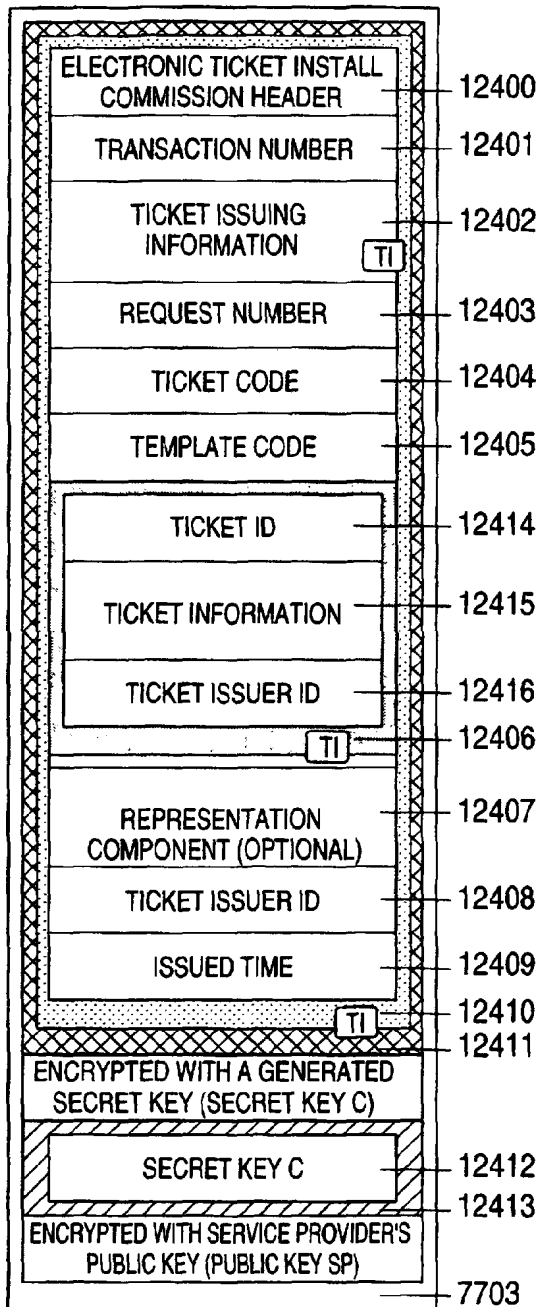


FIG.124B

ELECTRONIC TICKET INSTALL

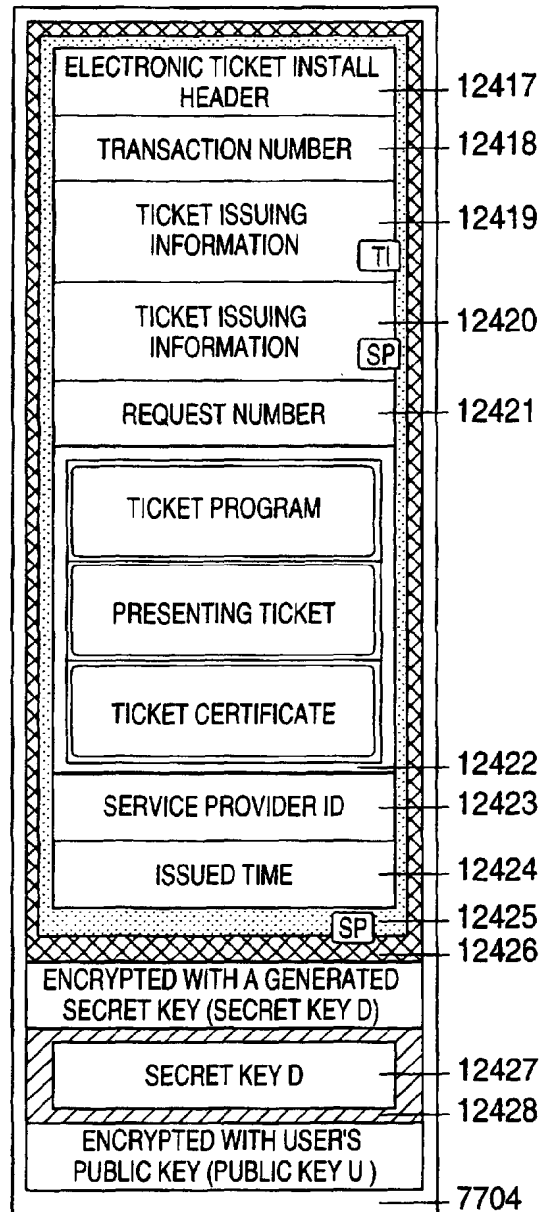


FIG.125A

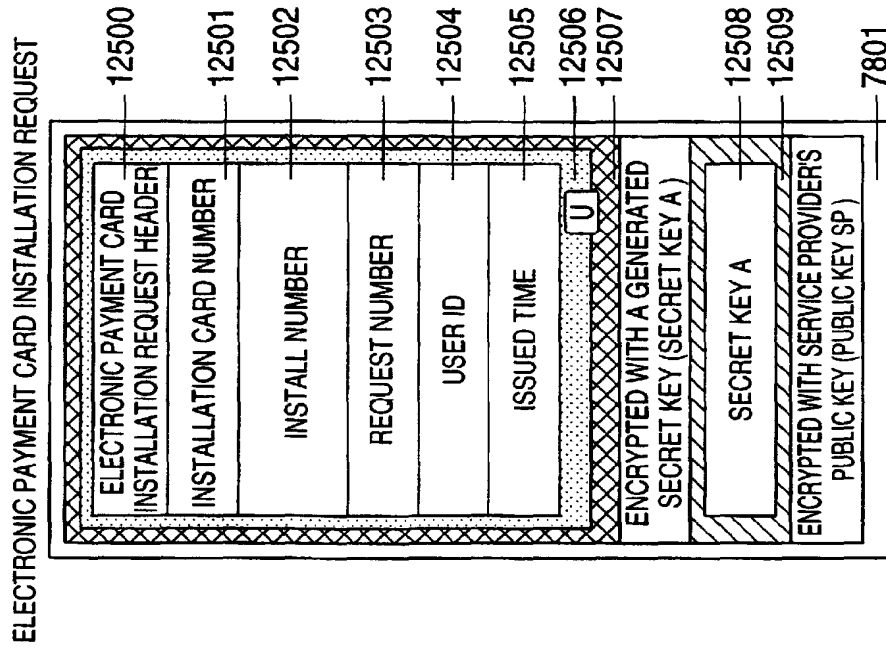


FIG.125B

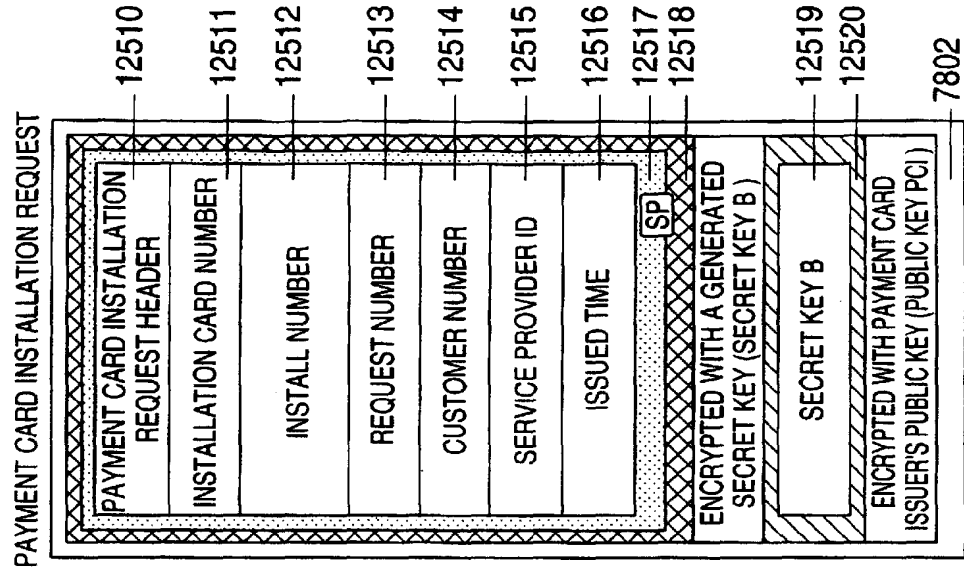


FIG.126A

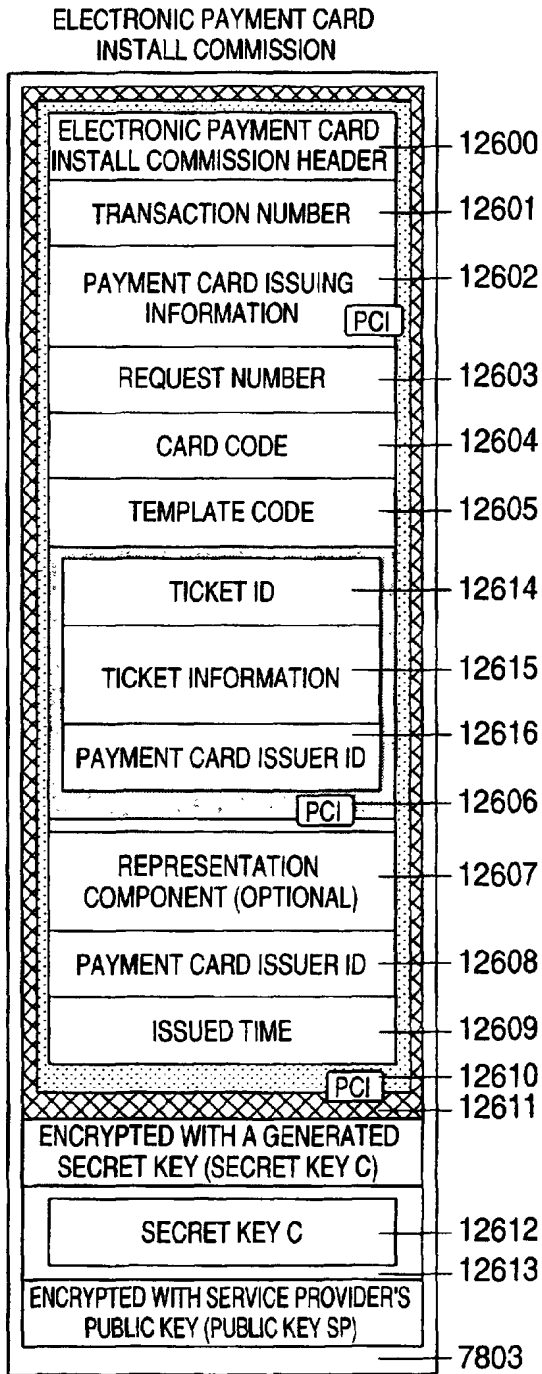


FIG.126B

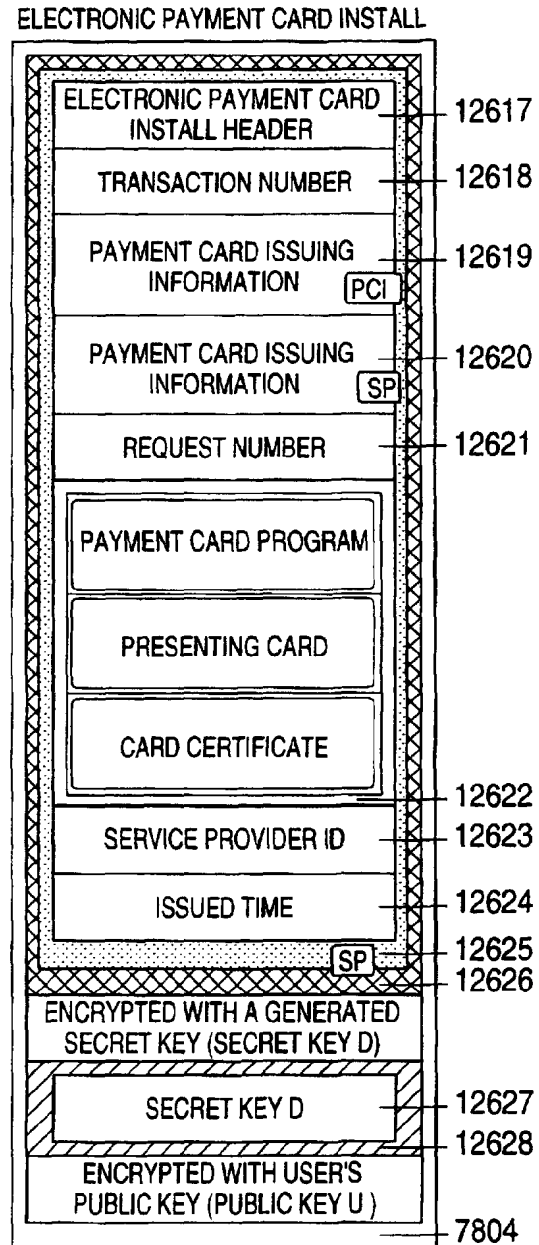


FIG.127A

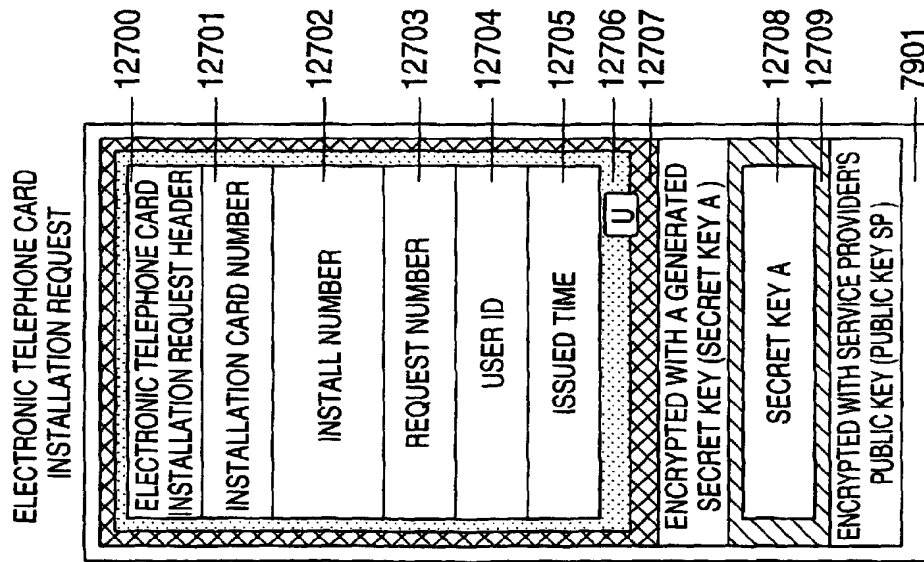


FIG.127B

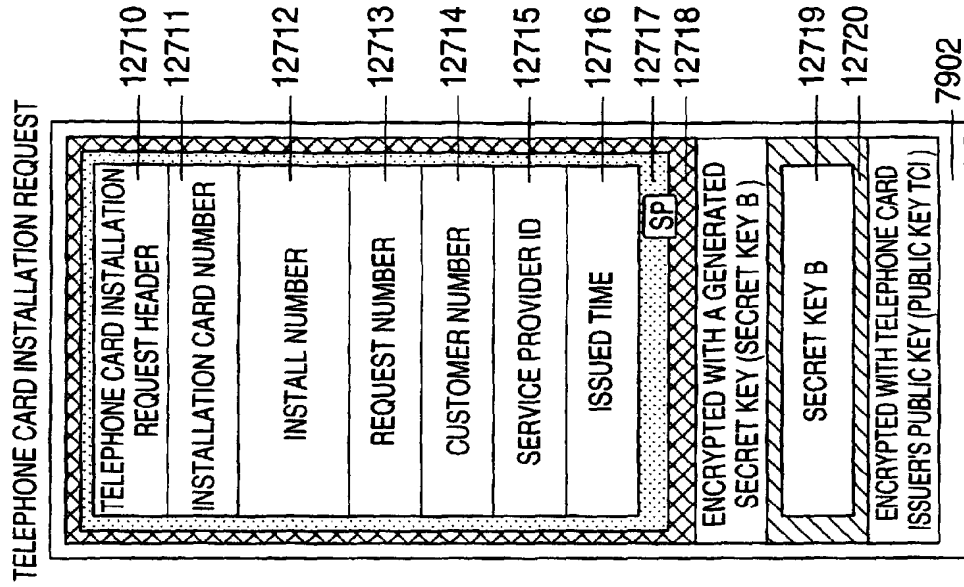


FIG.128A

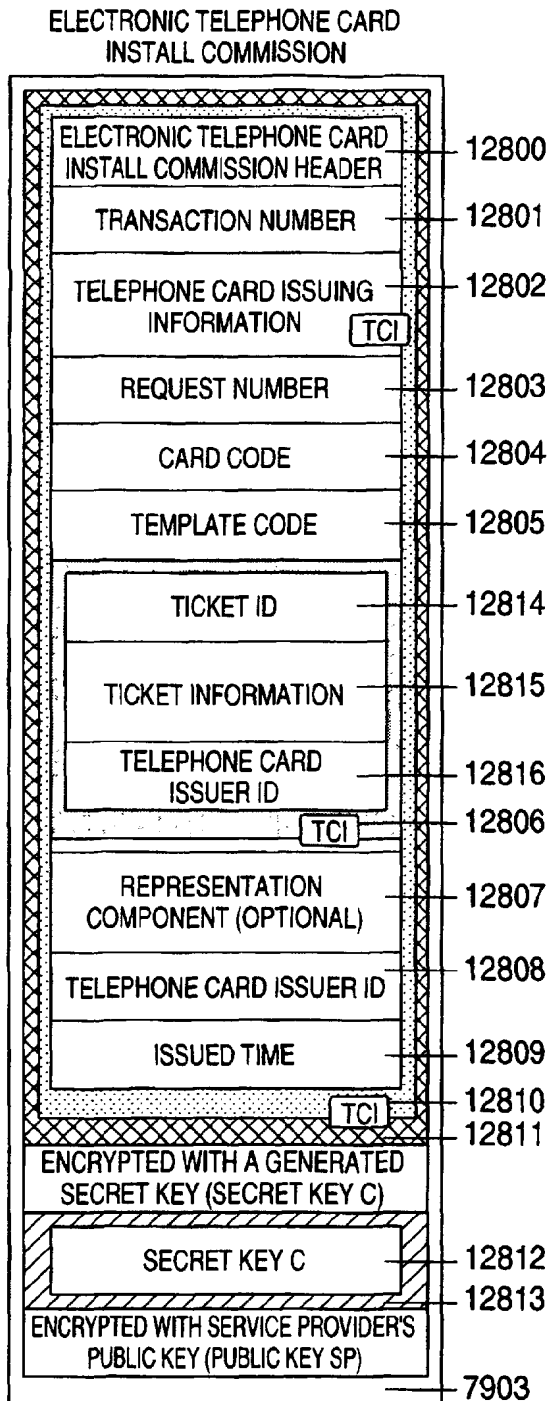


FIG.128B

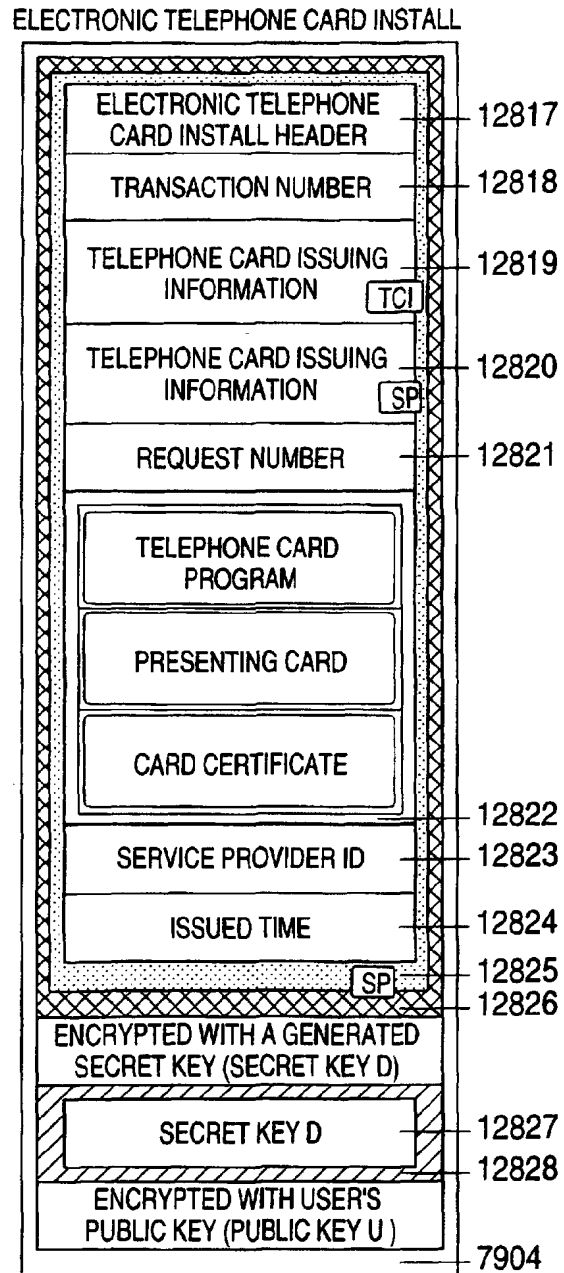


FIG.129A

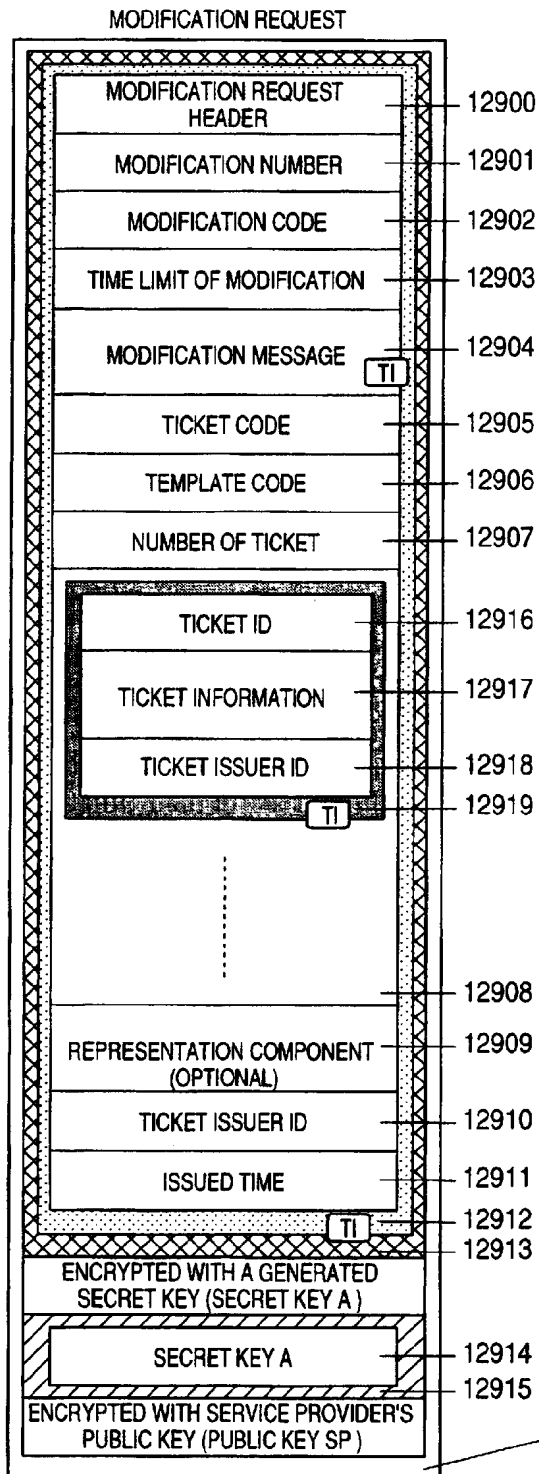


FIG.129B

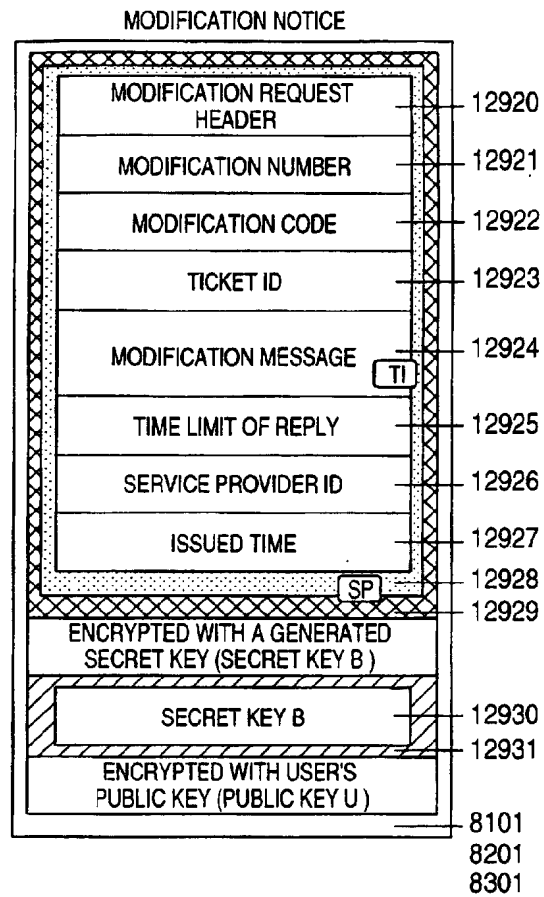


FIG.130A

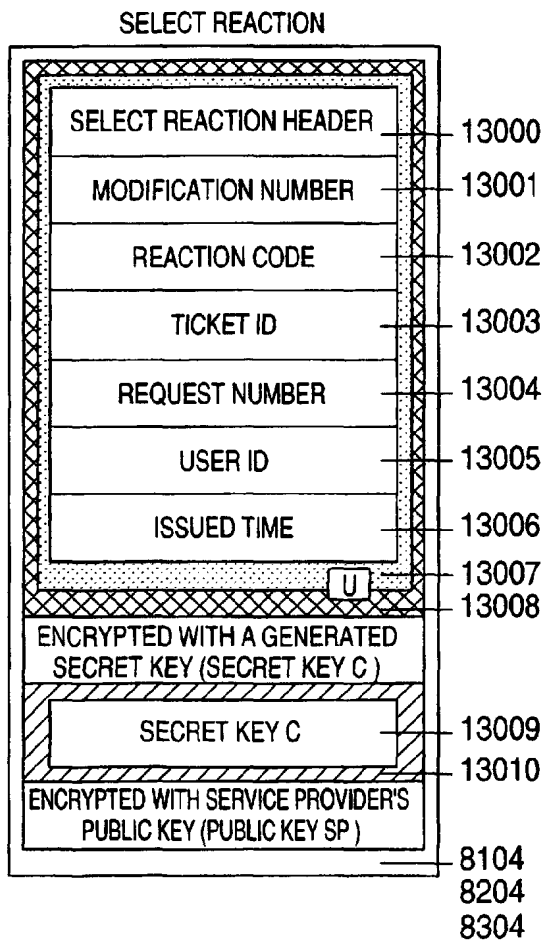


FIG.130B

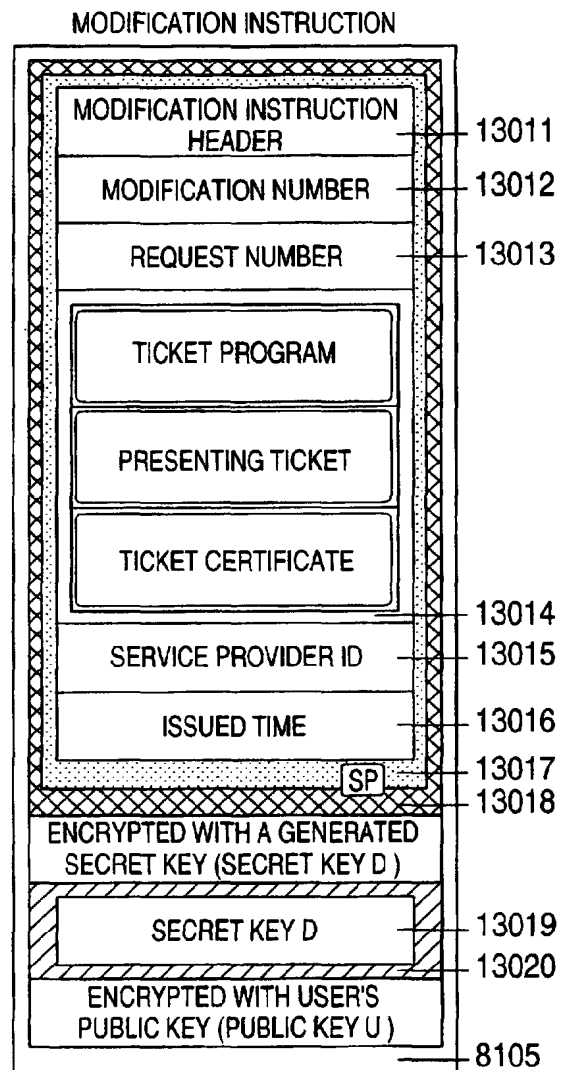


FIG.131A

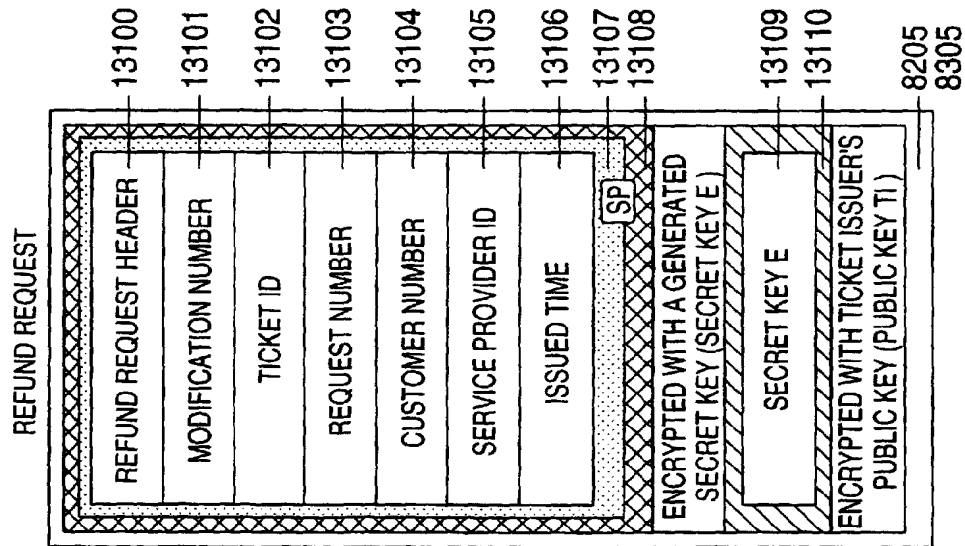


FIG.131B

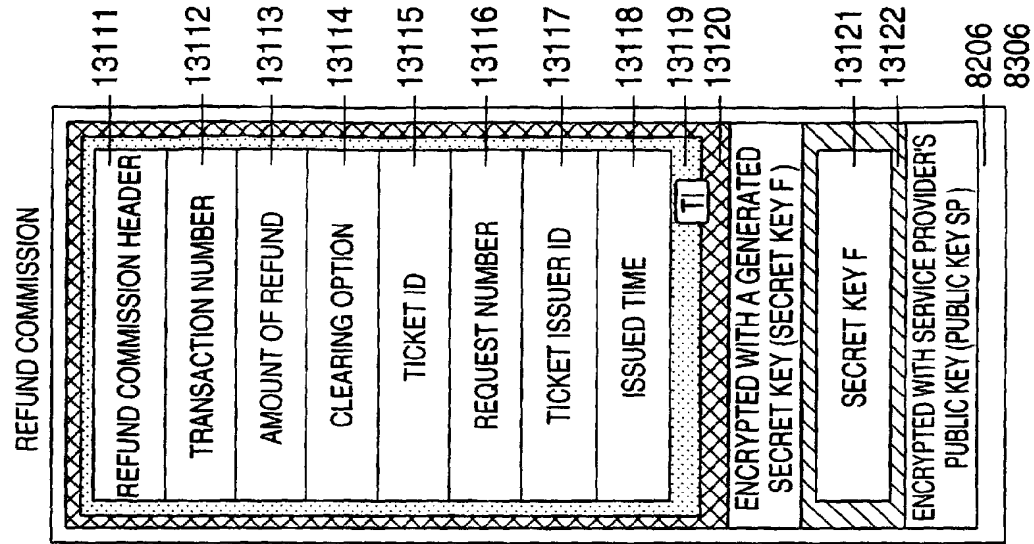


FIG.132A

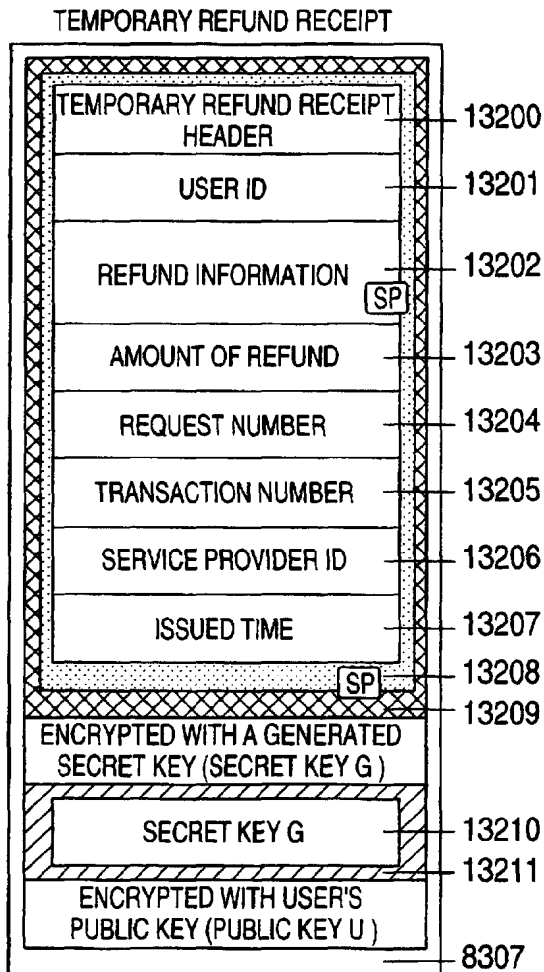


FIG.132B

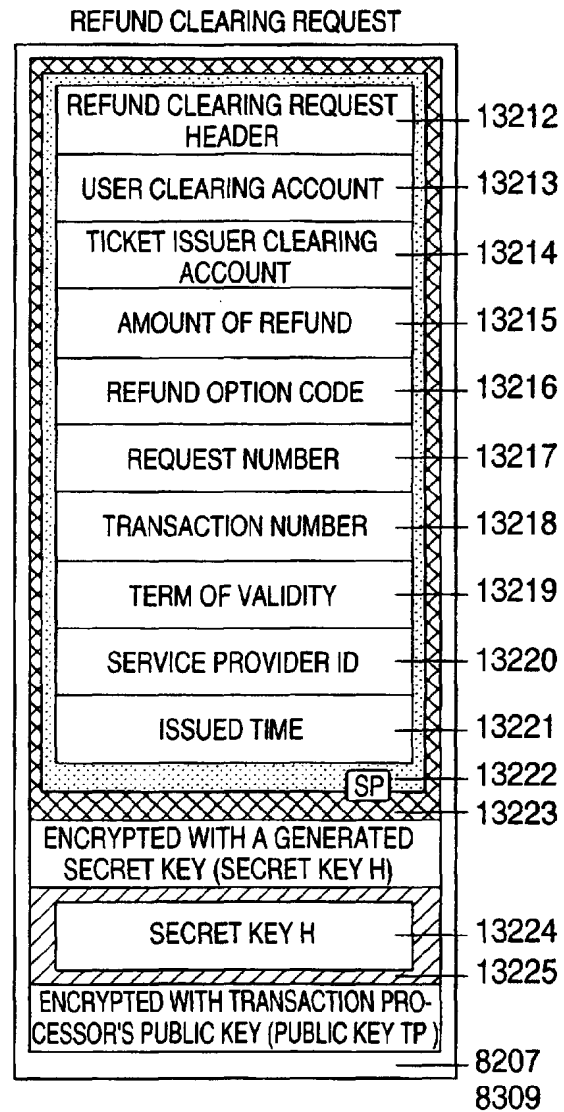


FIG.133A

REFUND CLEARING COMPLETION TP2SP

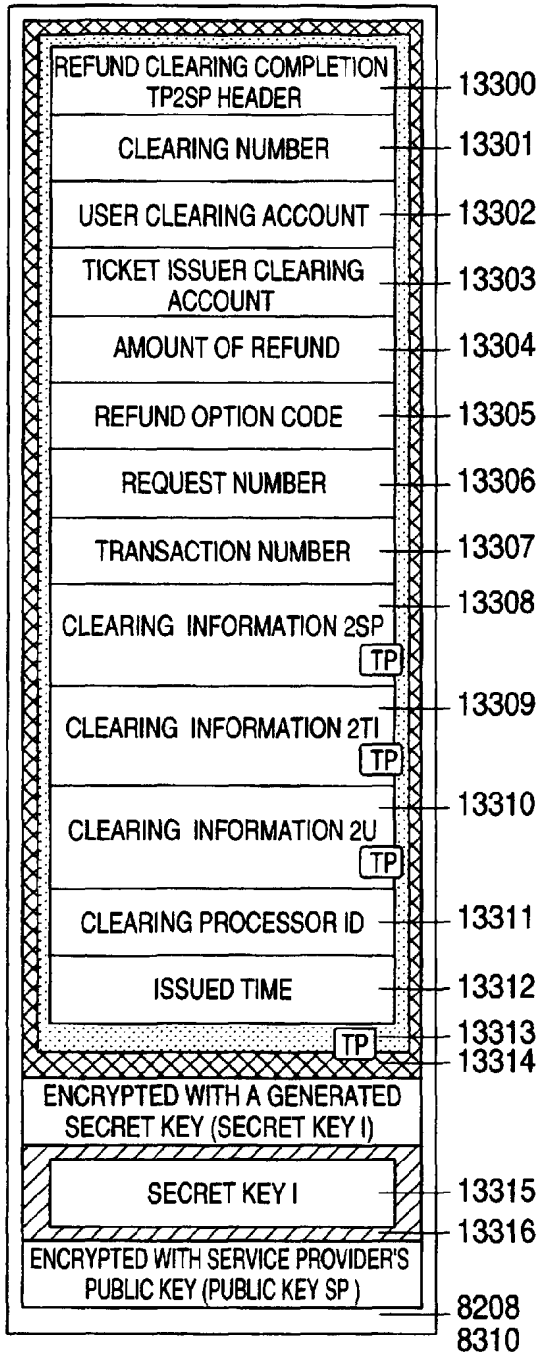


FIG.133B

REFUND CLEARING COMPLETION SP2TI

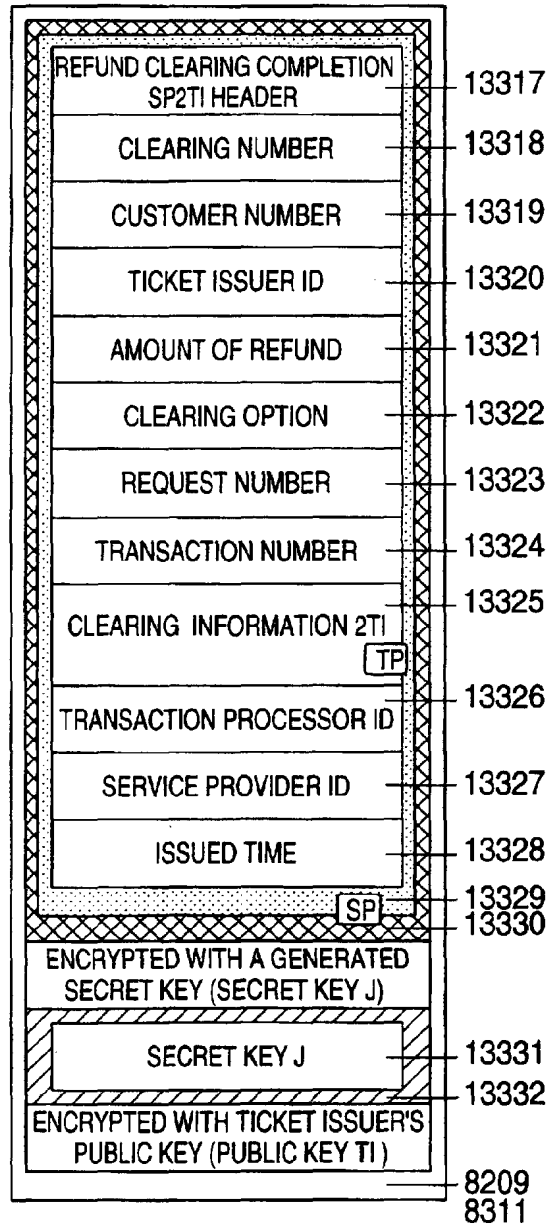


FIG.134A

REFUND RECEIPT TI2SP

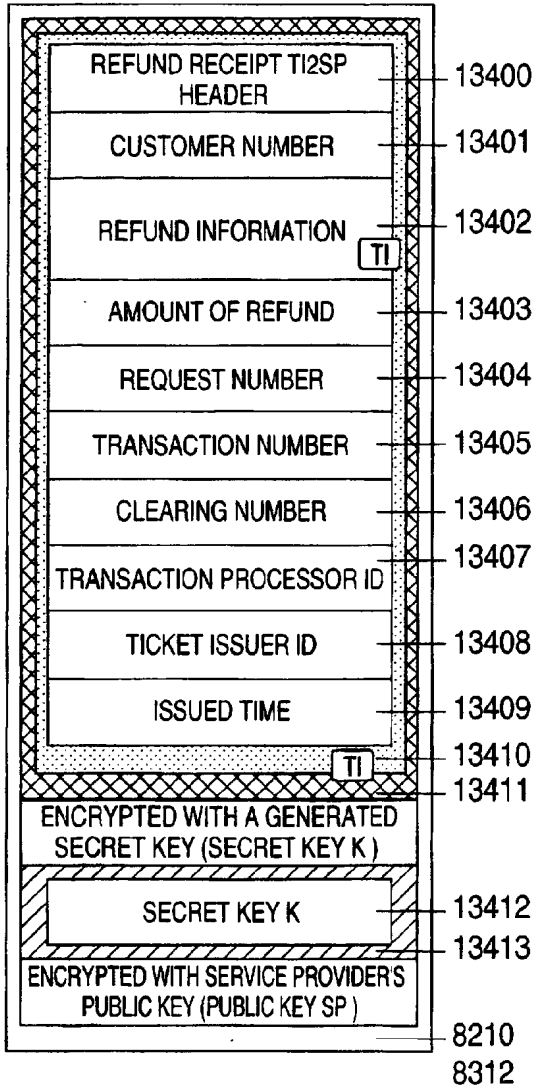


FIG.134B

REFUND RECEIPT SP2U

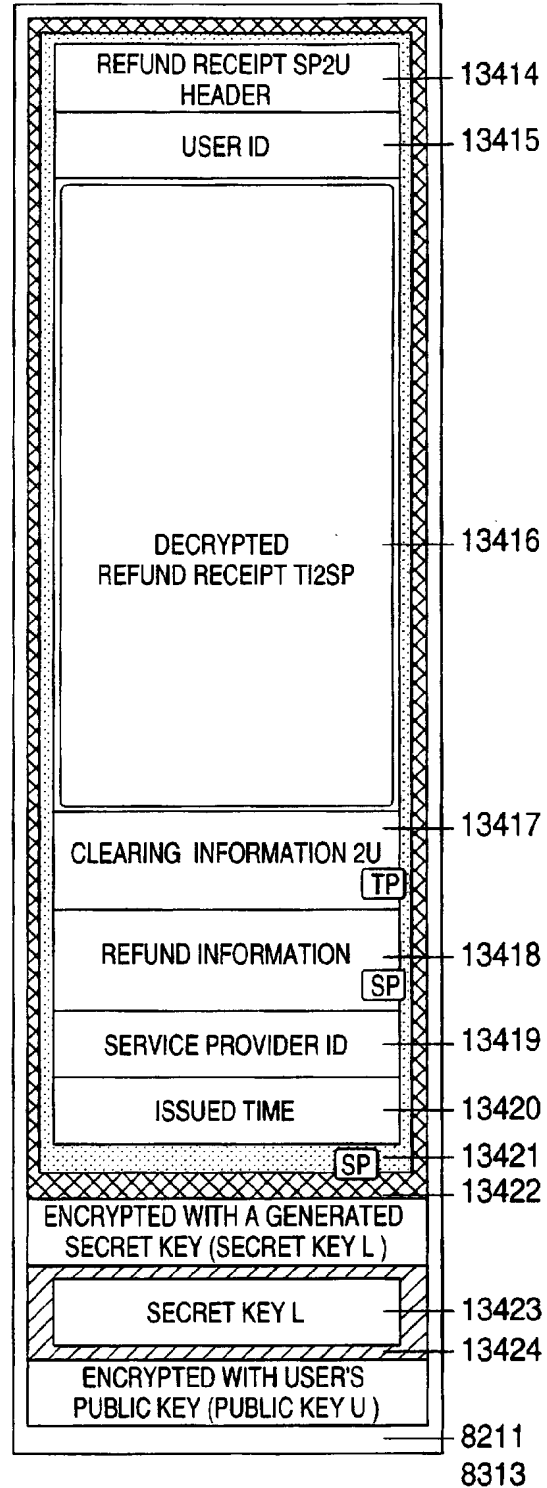


FIG.135A

PAYMENT OFFER

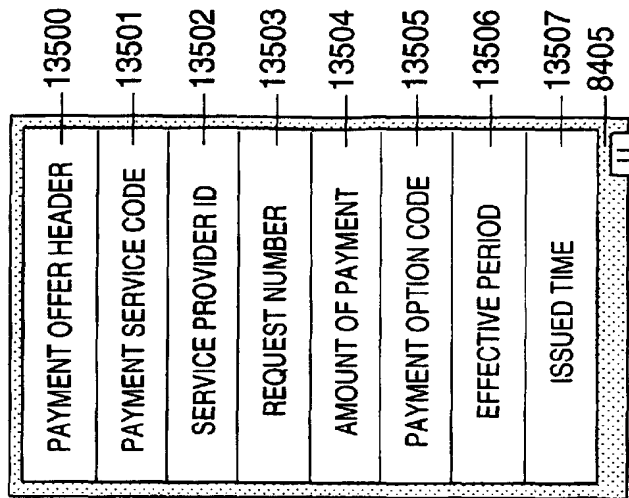


FIG.135B

PAYMENT OFFER RESPONSE

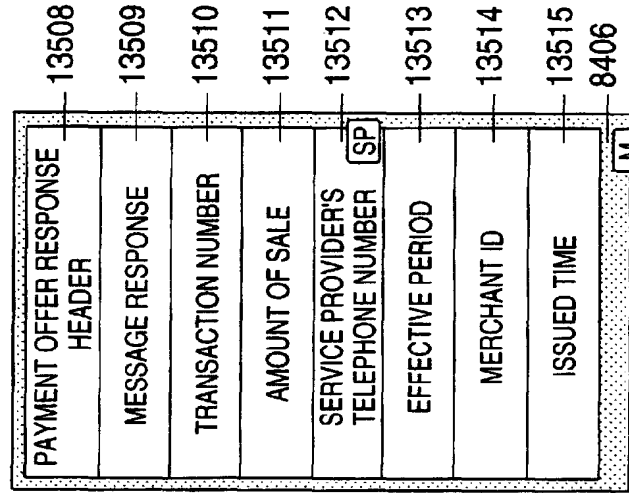


FIG.135C

AUTHORIZATION REQUEST

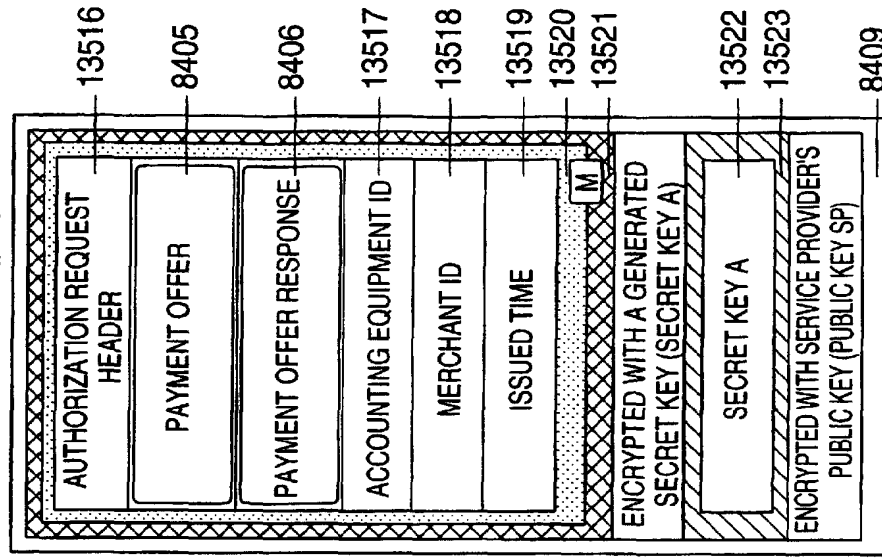


FIG.135D

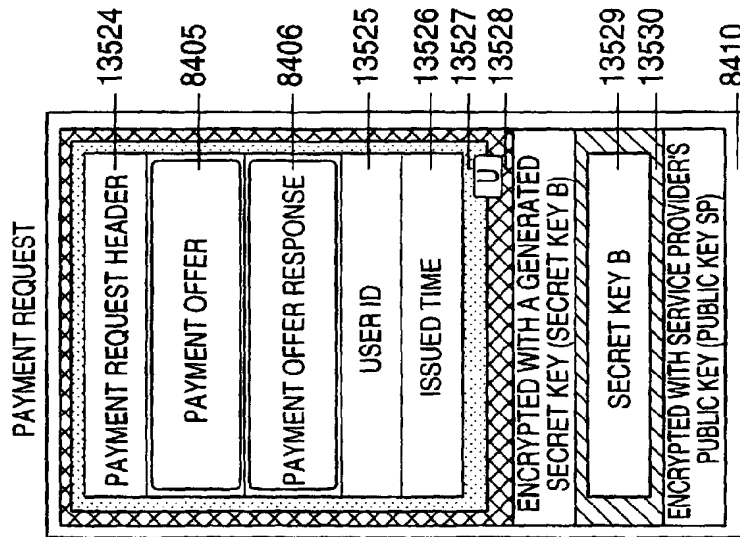


FIG.135E

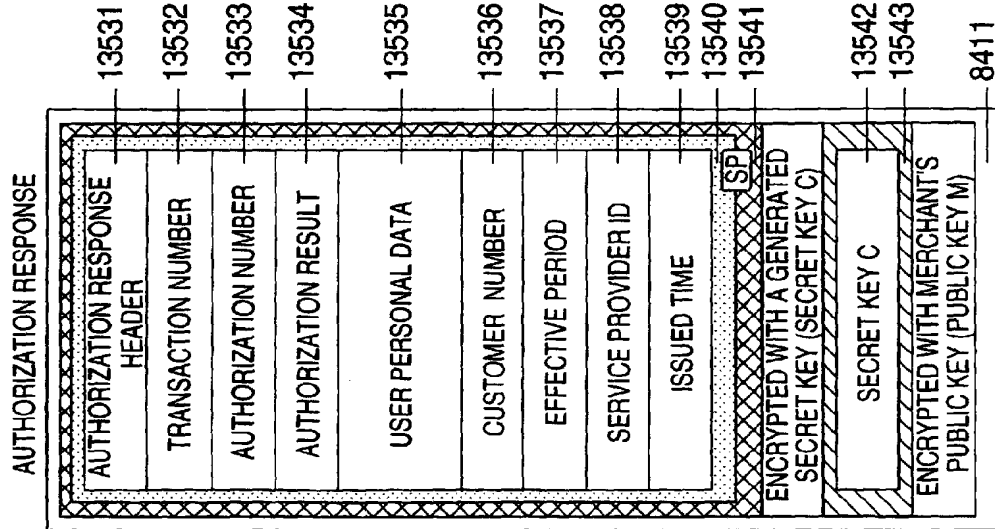


FIG.135F

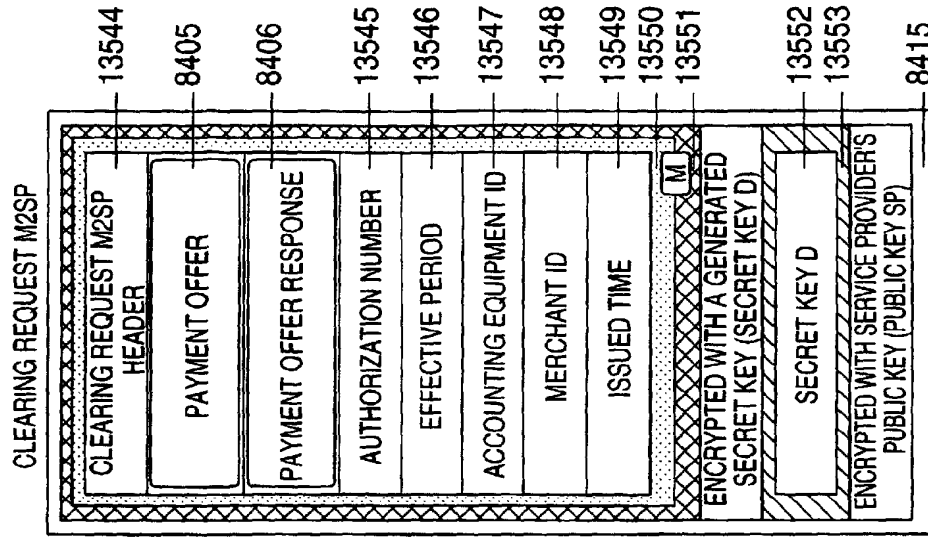


FIG.136A

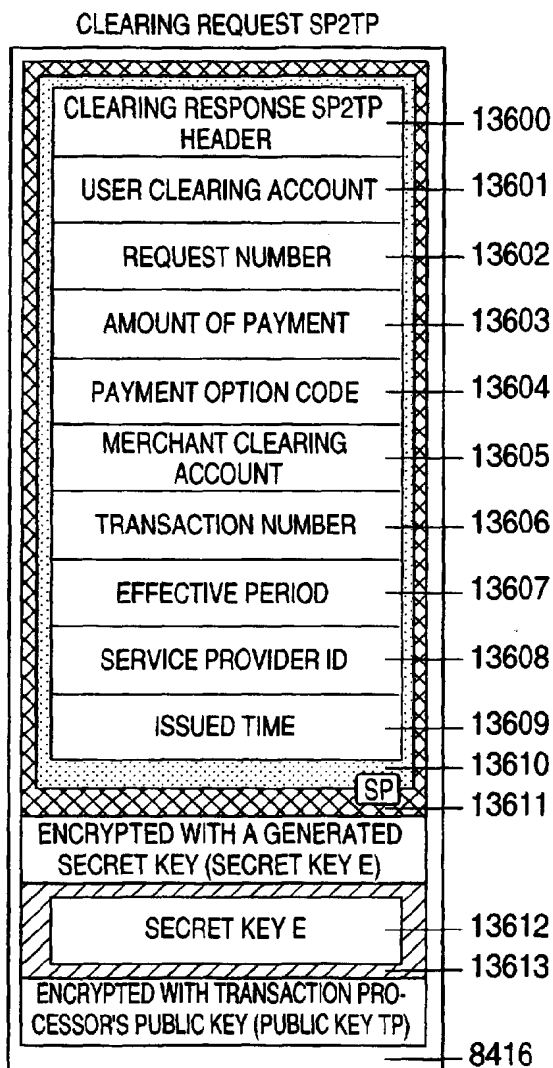


FIG.136B

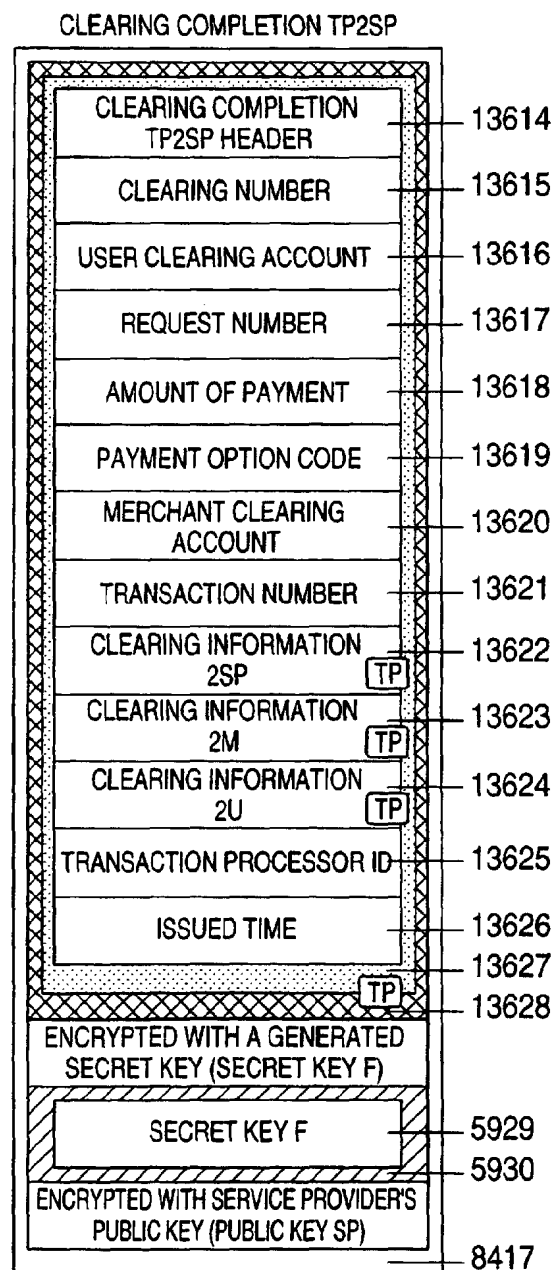


FIG.136C

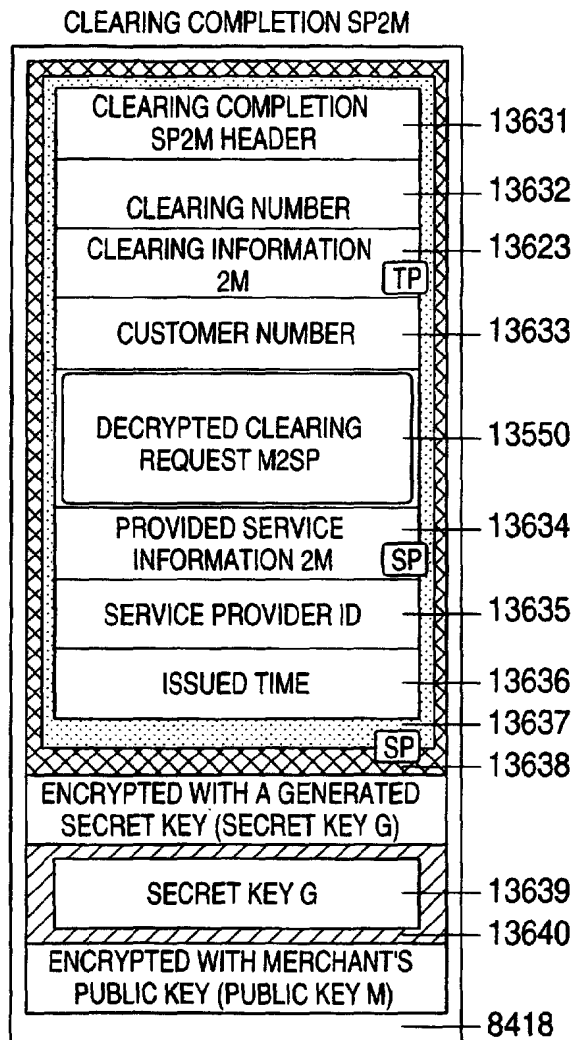


FIG.137A

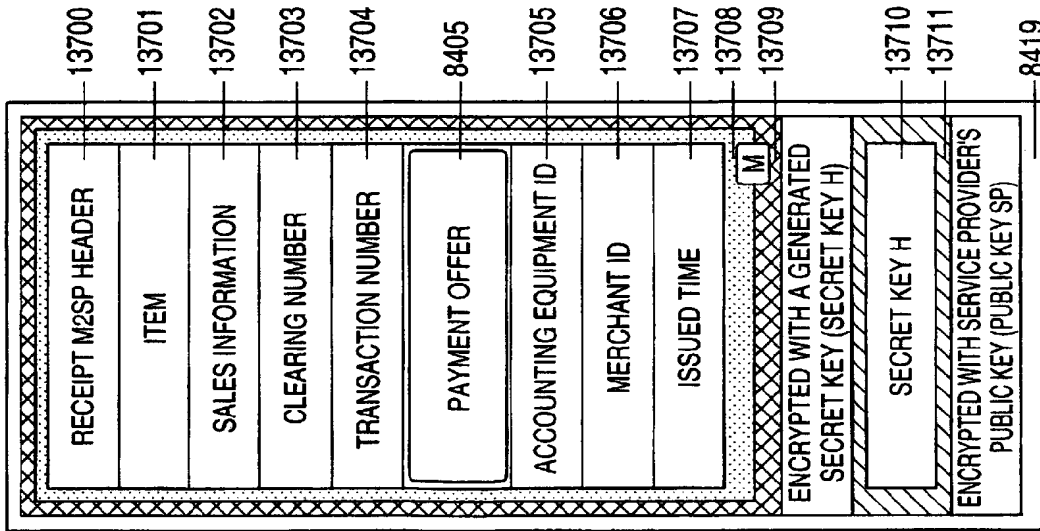


FIG.137B

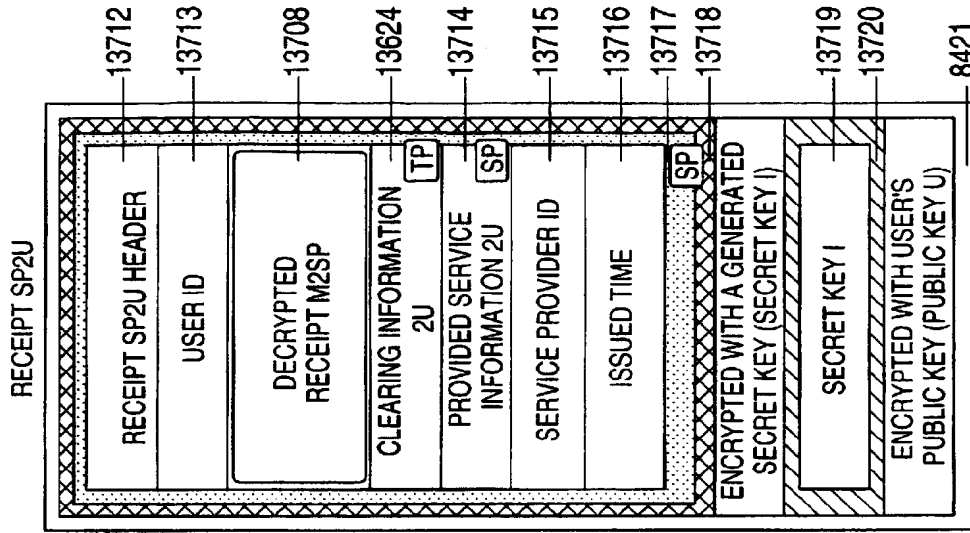


FIG. 138A

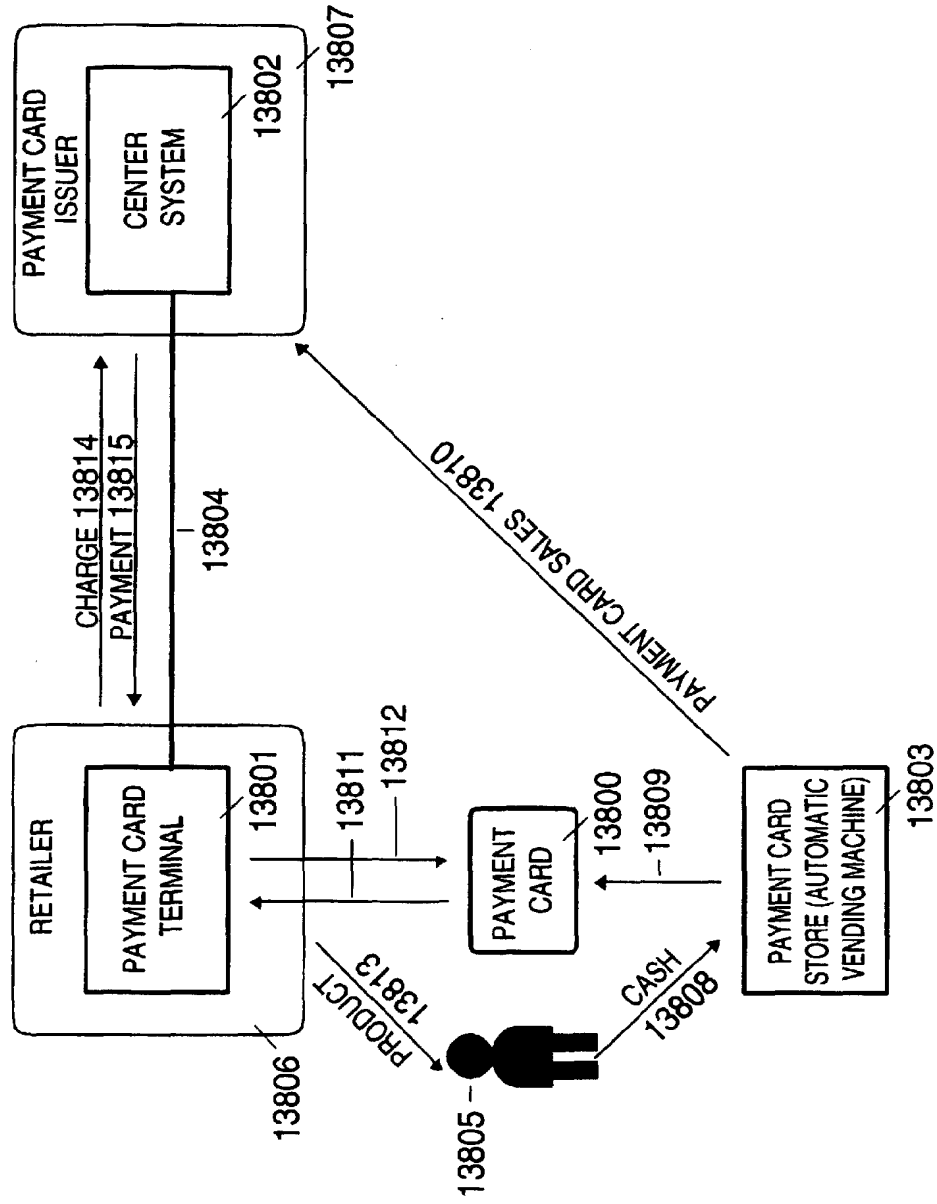


FIG. 138B

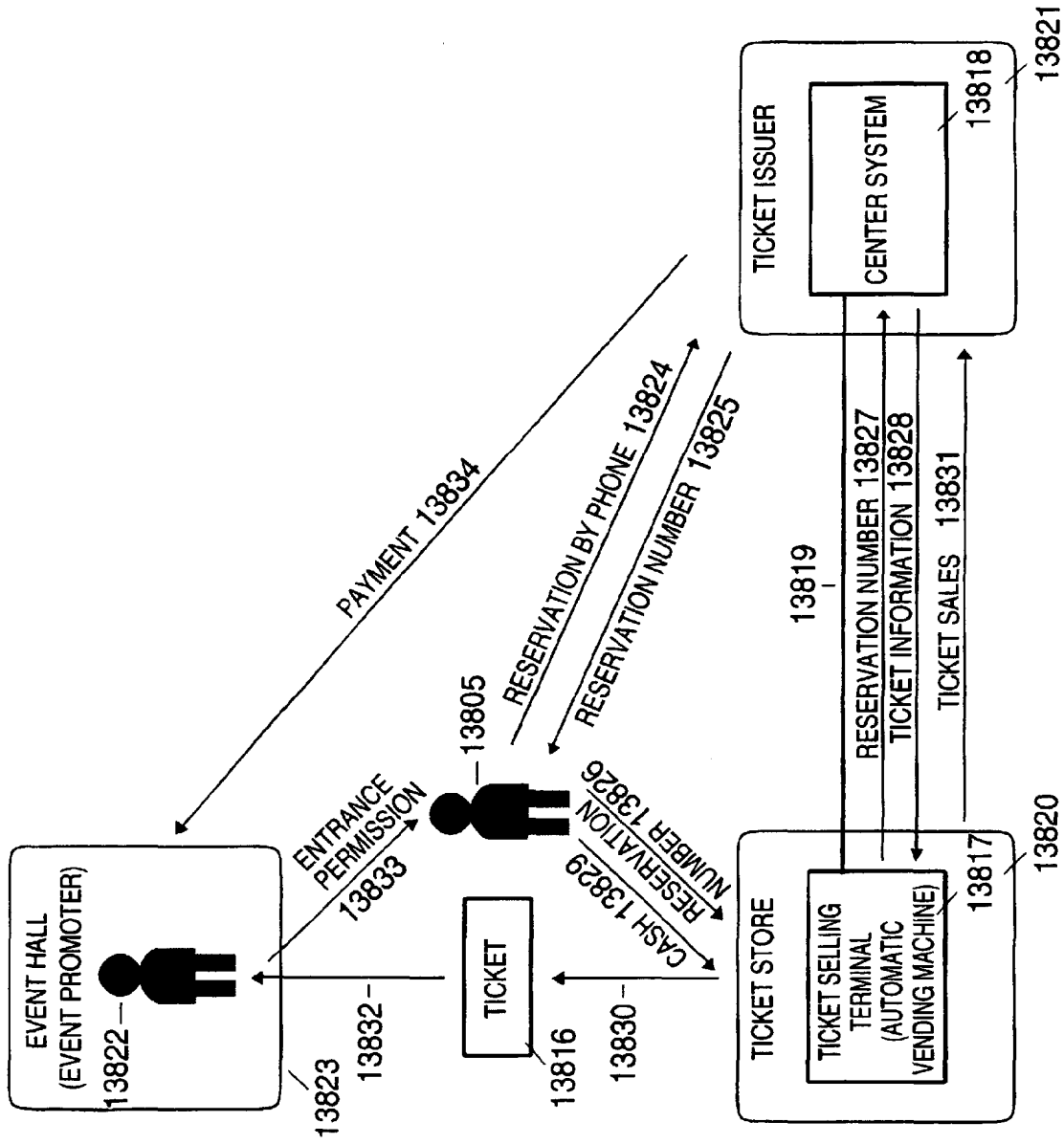


FIG. 139A

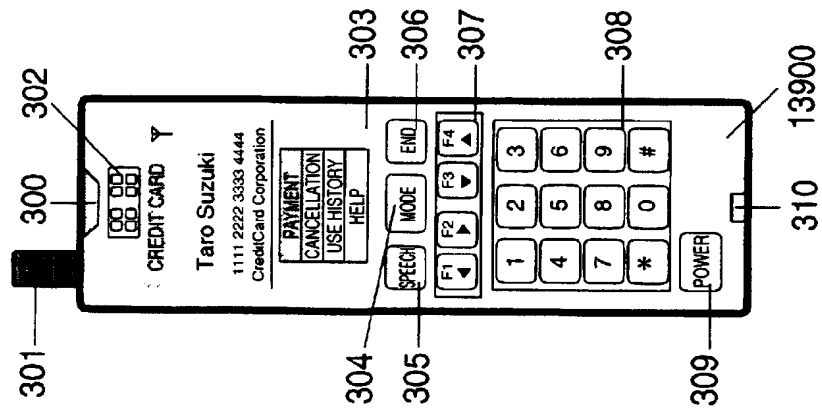
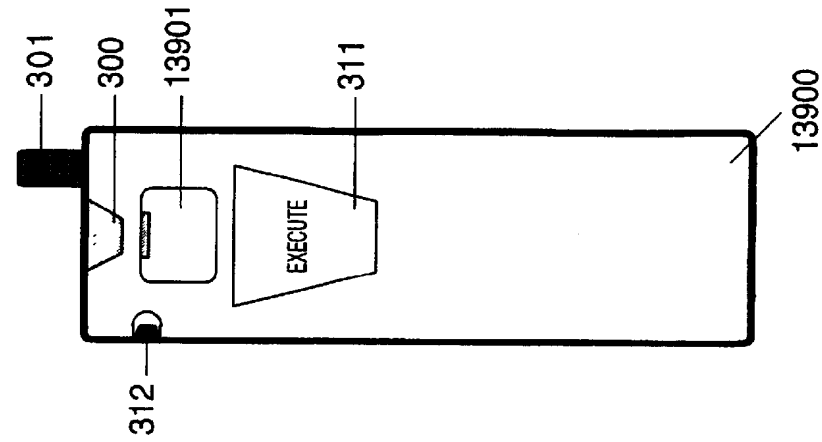


FIG. 139B



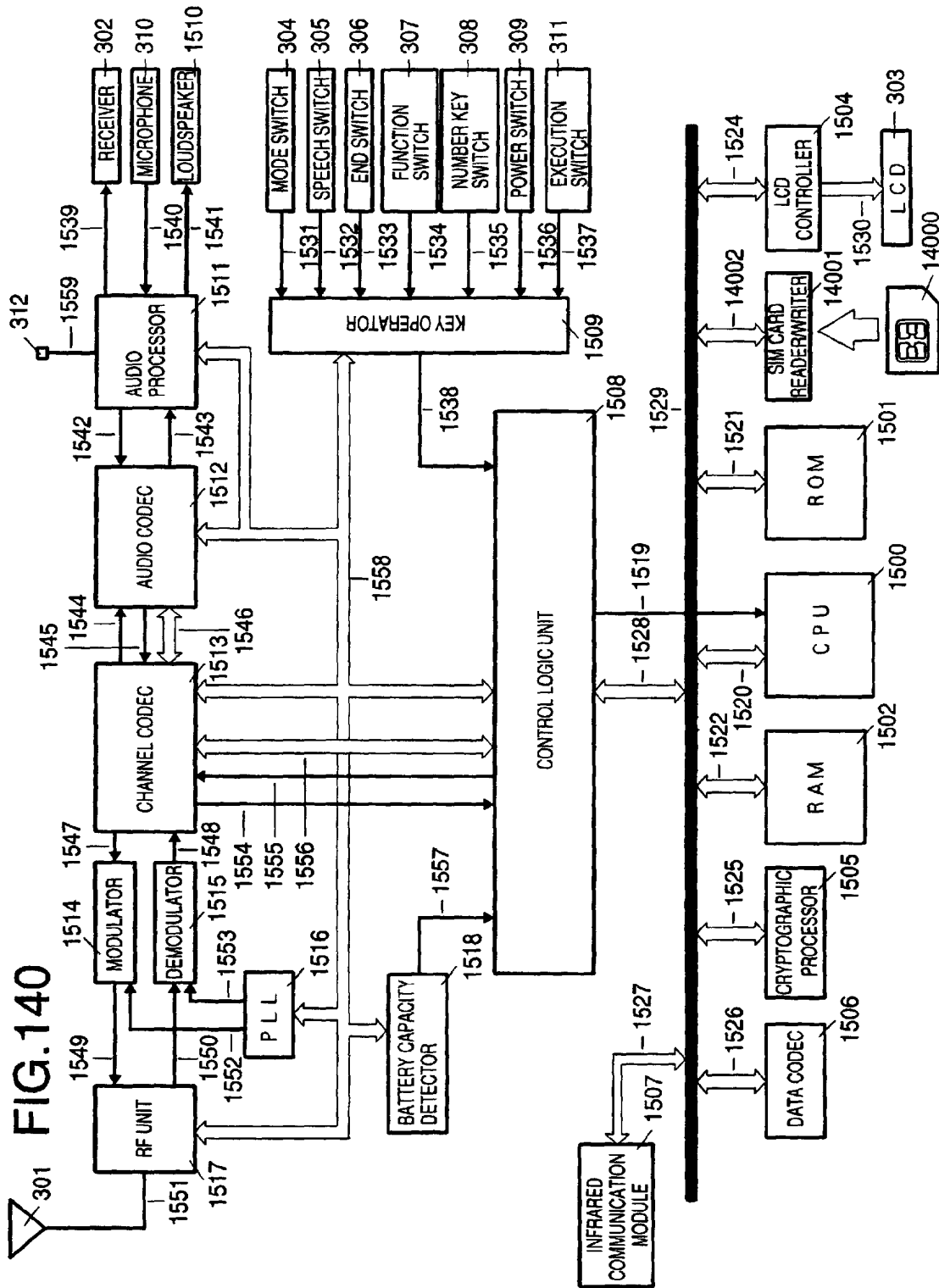


FIG.141A

FIG.141B

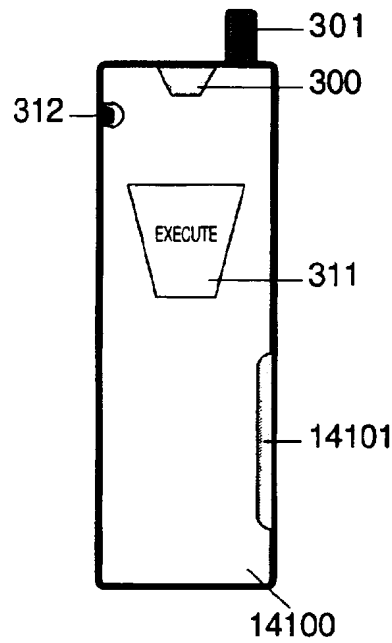
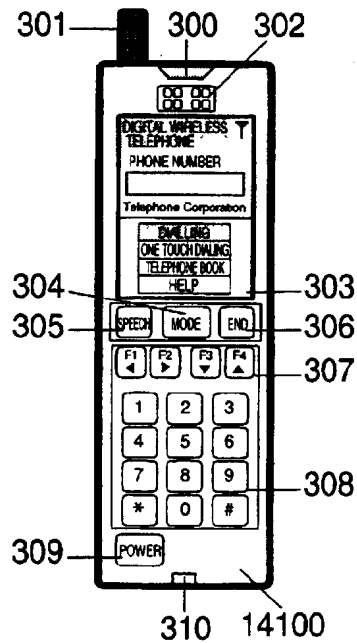
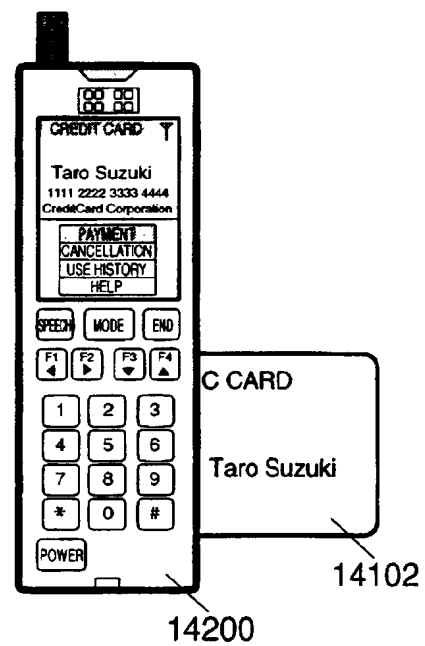
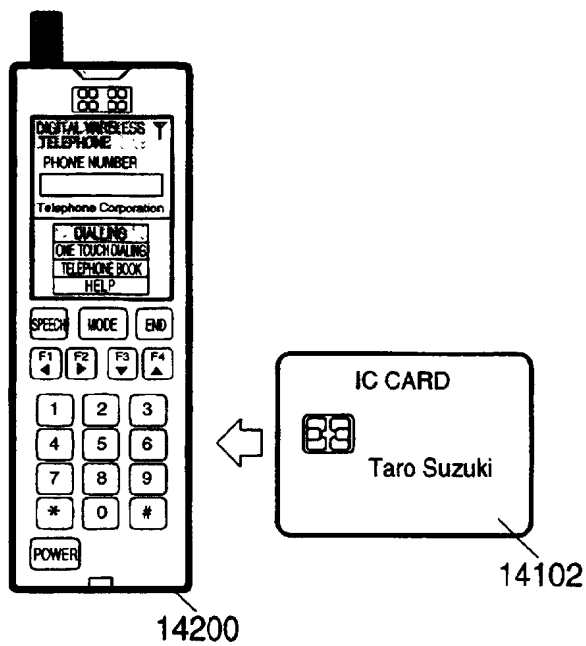


FIG.141C

FIG.141D



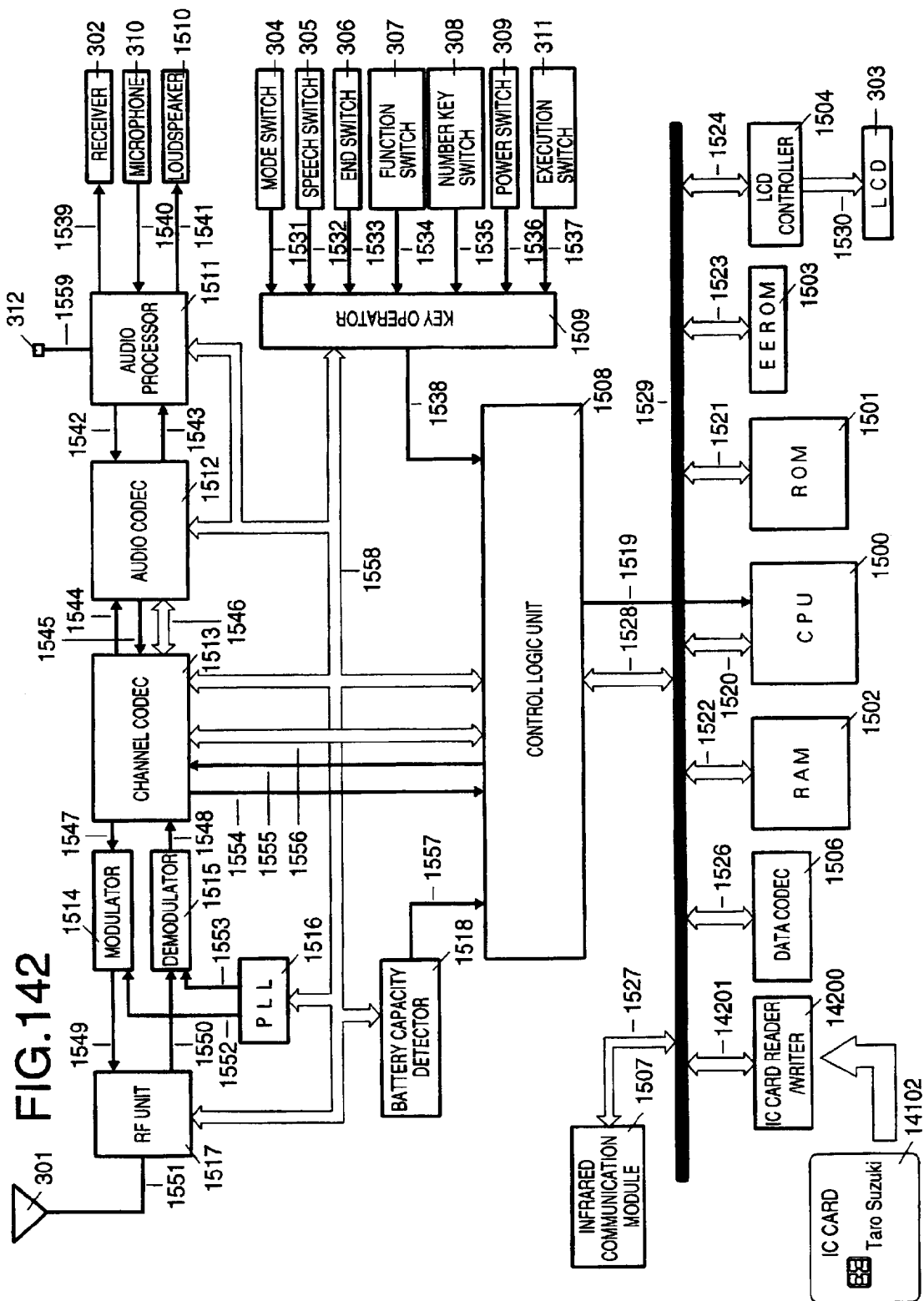


FIG. 143

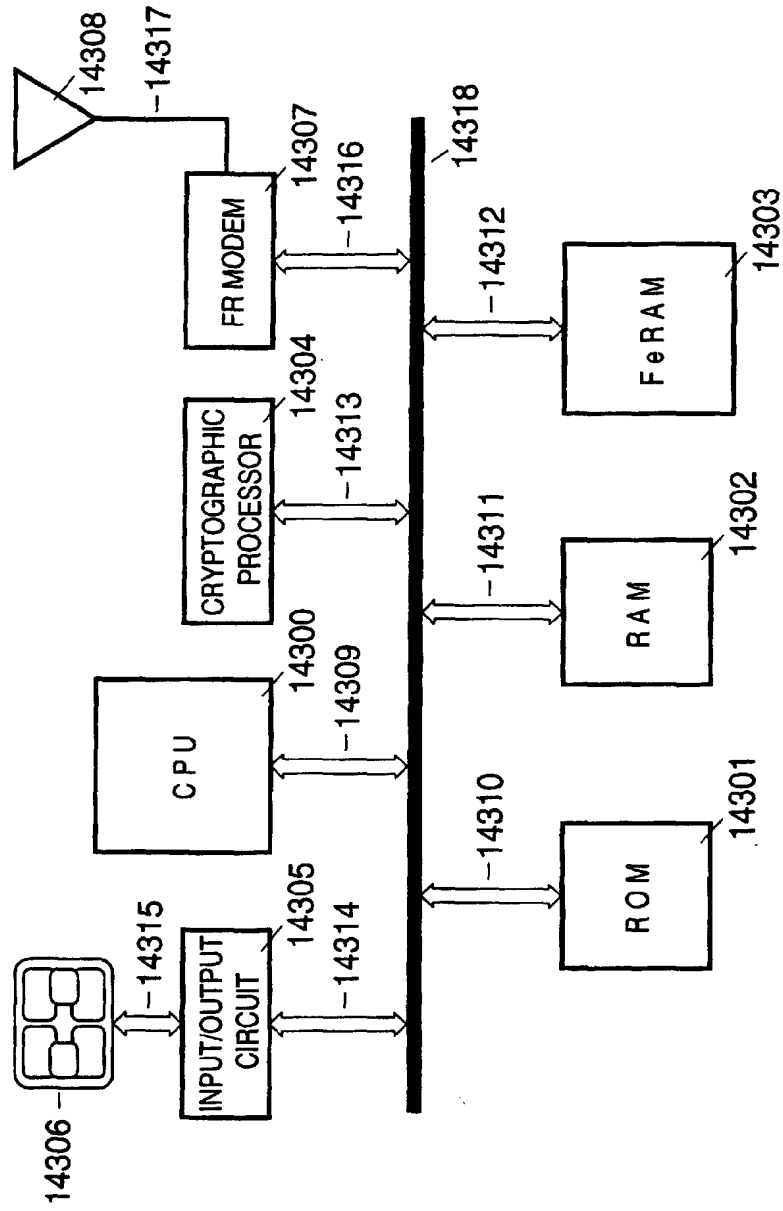
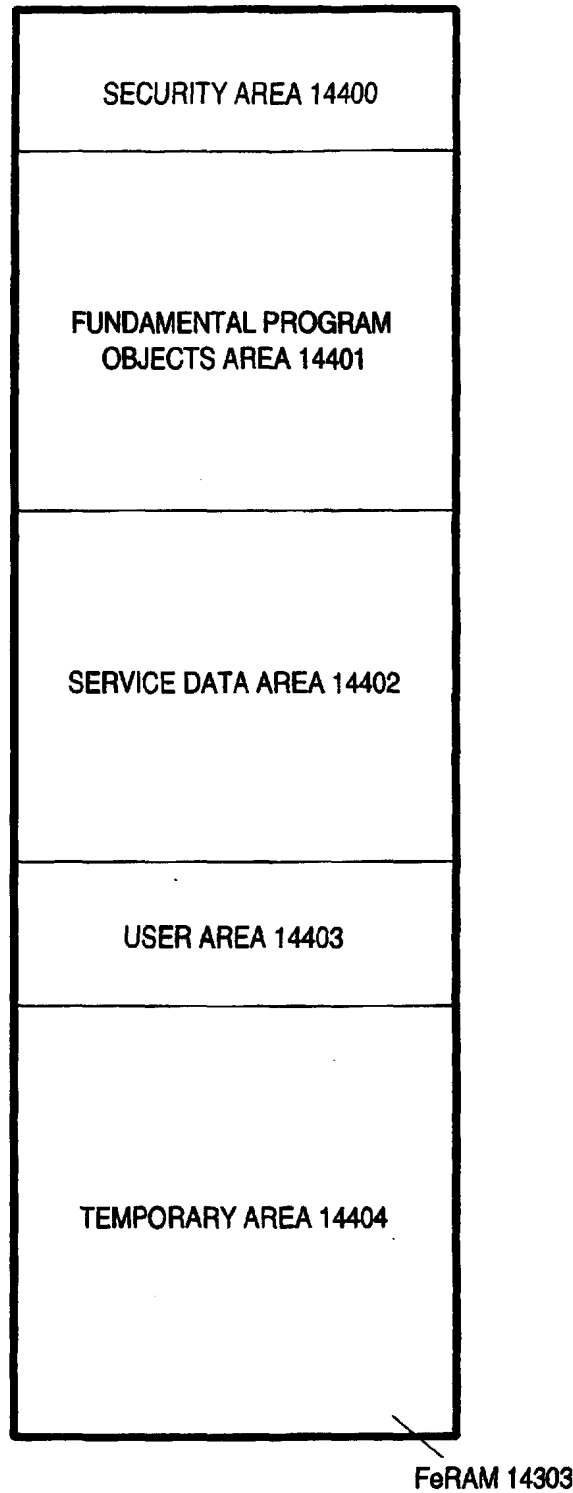


FIG.144



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP98/03608

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. ⁶ G06F17/60		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) Int.Cl. ⁶ G06F17/60, G07F7/08, G07G1/12, H04B7/26, G06F19/00 // G06F153:00, G06F19/00 // G06F157:00		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-1998 Kokai Jitsuyo Shinan Koho 1971-1998 Jitsuyo Shinan Toroku Koho 1996-1998		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GOLDSTEIN, Theodore: "The Gateway Security Model in the Java Electronic Commerce Framework" in LNCS vol 1318 (Financial Cryptography; Proceedings of FC '97), June 1997 (06. 97), Springer-Verlag (Berlin, Germany), pp340-354.	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 10 November, 1998 (10. 11. 98)		Date of mailing of the international search report 1 December, 1998 (01. 12. 98)
Name and mailing address of the ISA/ Japanese Patent Office		Authorized officer
Facsimile No.		Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP98/03608

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	SUN MICROSYSTEMS INCORPORATED: "Writing Code for the JECF" in <i>Java Electronic Commerce Framework</i> , alpha 0.6, May 1997 (05. 97).	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
Y	ANONYMOUS: "MasterCard Launches First Multiapplication Smart Card Platform" in <i>Report on Smart Cards</i> , vol 11 issue 10, May 26, 1997 (26. 05. 97)	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
Y	JP, 6-121075, A (Nippon Telegraph & Telephone Corp.), 28 April, 1994 (28. 04. 94) (Family: none)	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
Y	JP, 8-279025, A (Motorola, Inc.), 22 October, 1996 (22. 10. 96) & GB, 2298613, A & DE, 19607509, A1 & FR, 2732136, A1 & CA, 2169326, A	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP98/03608

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO, 96/25828, A1 (Nokia Mobile Phones Ltd), 9 February, 1996 (09. 02. 96) & FI, 9500685, A & FI, 99071, B & AU, 9646247, A & EP, 809916, A1	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
Y	ANONYMOUS: "Smart Card — Schlumberger Announces First-Ever Java-Based Smart Card" in <i>EDGE — Work- Group Computing Report</i> , Vol 7, No 338, Nov 4 1996 (04. 11. 96), page 9.	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
Y	JP, 8-101875, A (Transaction Technology Inc.), 16 April, 1996 (16. 04. 96) & EP, 662665, A2 & AU, 9481732, A & CA, 2140052, A & BR, 9500025, A & ZA, 9500058, A & CN, 1121295, A	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195
Y	O'MAHONY et al: <i>Electronic Payment Systems</i> June 1997 (07. 97), Artech House (Boston, USA) pp 191-220.	1-4, 27-48, 55-64, 69-74, 93, 97-99, 102, 107, 111-114, 117, 118, 122, 126-128, 131, 133-144, 146-154, 156-161, 163-168, 172, 173, 178-195

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP98/03608

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO, 96/02890, A1 (NTT Data Communications Systems Corp), 1 February, 1996 (01. 02. 96) & EP, 720102, A1, A4 & CN, 1130434, A & JP, 8-30702, A & JP, 8-190598, A & JP, 8-202774, A	3, 40, 41, 44, 48
Y	JP, 8-153248, A (Sanyo Electric Co., Ltd.), 11 June, 1996 (11. 06. 96) (Family: none)	27, 31, 165
Y	ANONYMOUS: "France Telecom Mobiles Offers Mobicarte Pre-paid Phone Card to Avoid Bad Debt Problems" in <i>Computergram International</i> , No 3125, March 21 1997 (21. 03. 97)	63, 64, 111-114, 142-144
Y	ANONYMOUS: "Ferroelectric Smart Cards Go to Market." in <i>Report on Smart Cards</i> , Vol. 10, Issue 19, September 23 1996 (23. 09. 96).	140, 141

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